GRUMMAN plane news

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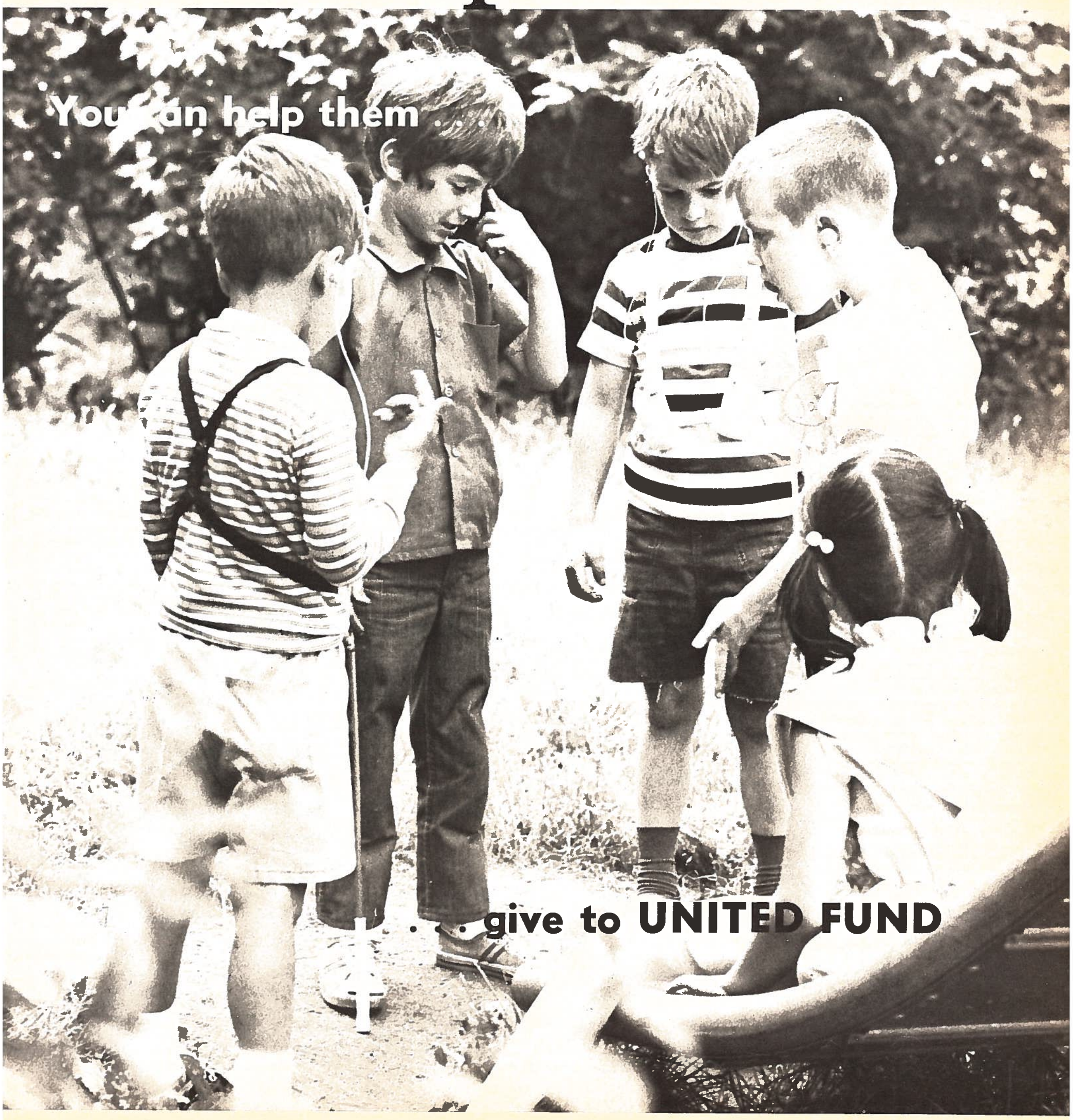


Call design features on Tomcat keys to improved maintainability

The F-14 is the most advanced air superiority fighter ever built . . . and yet, from the beginning, it was designed with simplicity in mind.

That may seem a contradiction, but it isn't: The "simplicity" refers to the crucial area of maintainability. And that's best described by Emerson Fawkes, special assistant to Senior Vice President Grant Hedrick for Maintainability and Reliability, and Fleet Readiness manager for F-14:

"From the original design-concept stage, we knew we had to build an aircraft that could be easily maintained. In fact, our contract calls for a maximum of 19.8 maintenance manhours per flight-hour, a figure we're close to now. The goal is a tough one; the F-4, for example, comes in at 40 or more maintenance manhours per flight-hour—although when the F-4 was built, that sort of contractual obligation did not exist."

Better way

For F-14, the obligation means that there's a need to find a better way of doing things, to simplify procedures without in any way compromising the aircraft's capabilitiies.

Some of this simplification was designed into the aircraft originally for maintainabilty:

- All "daily maintenance" items are located behind quick-opening doors
- A so-called kneeling feature that depresses the nose landing gear by 18 inches allows men to service the plane without dragging in a workstand
- Clamshell-type doors for the engines permit over-all accessibility
- An automatic fault-indication system (built-in test) that (1) allows the pilot and MCO to see safety-of-flight status, (2) permits the MCO to flip a switch to test the status of the entire aircraft system, and (3) includes a red ball warning whenever a black box is faulty—which makes it easy for the service crew to find the errant box.

Keys to maintainability

These features — along with many others—are keys to maintainability. In terms of how the job is carried out, a basic link is the MET (Maintainability Evaluation Team), a three-man group made up of Vince Jambrone, Maintainability group leader, Ed Kimball, ILS manager of Maintainability Control, and Bill Harrell, Support Systems staff. This trio has the on-going, day-to-day job of assessing minor maintainability problems that naturally crop up in the course of building and testing any new aircraft. (These are called "minor" only in the sense that the larger items were taken care of much earlier in the design and prototype stages; any problem could be "major" if it markedly affects costs, production, or maintainability.)

Problem solvers

The MET processes chits — the glitches. A couple of for-instances: an air refueling probe hydraulic selector valve was inaccessible, so the valve's location was changed; the throttle quadrant mounting was redesigned so that electrical connectors and mechanical hardware were accessible.

"These little things can make or break an aircraft," Fawkes points out. "You tackle these problems in a logical, three-phase manner. The first is at the design-concept stage, where the aircraft has its birth and early development; there you have a good idea of what the aircraft looks like, what it's supposed to do, where the innovations are made, etc. The next step is at detail design, where trade-offs are at the maximum — where compromises have to be made to achieve the best possible aircraft in a real-world environment; it's there that you may have to back off a little from 'the ideal' in order to build the practicable. The third level is build-up. There you put the aircraft together on the production floor and send it to Calverton for final assembly and flight testing. Naturally, trade-offs are made at that level, too.

"And of course, all along the route, you have to look for ways to do the job in a simpler, faster, less costly way."

At this third level, maintainability problems and solutions are presented bi-weekly, at a meeting under the chairmanship of Vice President Mike Pelehach, to determine what fixes (changes) should be made in the aircraft. Usually, immediately after that session, Pelehach, Fawkes, the MET, and the Maintainability Design Change Team — John Caligiuri, Charles Ehrhardt, Fred Berezuk, and Ron Bellew, all structures engineers — go to the production floor to look at the problems discussed in the meeting.

The heart of the whole process, as Pelehach likes to point out, is that proposed or approved fixes are recommended or implemented by a group of design engineers that **cuts across all design disciplines** to minimize cost of design, reduce coordination time, and eliminate work delays. There's maximum visibility. The chances of something falling through the cracks are minimal.

"The system is working," says Fawkes. "We're even shooting for **less** than 19.8 maintenance manhours per flight. I believe we'll make it."

Decision makers. **Under discussion is a minor change in a part in the F-14. The decision-making group includes (L to R) John Caligiuri, Emerson Fawkes, Vice President Mike Pelehach, Charles Ehrhardt, Fred Berezuk, and Bill Harrell. These maintainability sessions are held bi-weekly. (Photo by Fred Annette)**

Hobby Show offers top prize of $100 bond

Finish the lampshade, tie the last knot, put the final touch on your beautiful model. The annual Grumman Hobby Show is coming. Top prize is $100 Savings Bond, and three prizes are offered in each of 24 categories.

Submit entries Monday, Tuesday, or Wednesday, October 18-20, between the hours of 4 and 6:30 p.m. Staff members from GAA will be at Plant 28 to receive them. Judging will take place on Thursday, October 21, and prizes will be awarded Friday noon.

Get your entry blanks from the GAA Office, Plant 28B, Ext. 2133 or 2269. Calverton employees contact Katherine Eng, Plant 6 Library, Ext. 335.

These are the hobby categories:

1. Ceramics
2. Collections - Coin
3. Collections - Stamps
4. Collections - Misc.
5. Crocheting
6. Embroidery
7. General
8. Gunsmithing
9. Knitting
10. Leather Work
11. Metal Work
12. Model Planes - Flying - Scale
13. Model Planes - Flying - Non Scale - Origian Design
14. Model Planes - Non Flying - Scale
15. Model Planes - Non Flying - Non Scale - Original Design
16. Model Railroads
17. Needlework
18. Science - Working Models
19. Sewing
20. Ship Models - Kits
21. Ship Models - Original Design
22. Ship Models - Scale
23. Wood Carving
24. Woodworking

The Art & Photography Show is scheduled for November 11-14 in Plant 28. Employees, retirees are eligible.

Scholar deadline November 1

Monday, November 1, is the deadline for high school seniors interested in competing for Grumman Engineering Scholarships to file official applications with their school principals.

The Grumman scholarships provide full tuition for courses leading to a bachelor's degree in any accredited engineering school of the student's choice. At least three of the awards will go to dependents of Grumman personnel. Those eligible to compete must be high school seniors in the top 20 per cent of their class scholastically.

Official application blanks, plus descriptive literature explaining the whole program, may be obtained from high school principals and school guidance counselors throughout Nassau and Suffolk counties.

Completed applications will be sent by the school principals to Grumman on or before November 8, each accompanied by a transcript of the student's secondary school record, two letters of recommendation from non-relatives supporting the applicant's candidacy, the school principal's report, and a small, recent photo of the applicant.

In the event your school does not have the official application forms contact Bill Wenzel, Grumman Engineering Scholarships Office, Plant 35, Bethpage, N. Y., 11714, or phone LR 5-2682.

Change of hours

Effective Monday, October 18, the Grumman film library will be open from 8:30 a.m. to 1 p.m. on Monday and Wednesday, and from 1 to 5 p.m. on Friday. The film library, located at Aerolog Productions Inc., 1211 Stewart Avenue in Bethpage, contains a number of historical and topical films about the aerospace industry that may be borrowed for showings to clubs, civic groups, etc.

You may contact the film library by calling Ext. 86919 or 433-2311.

Set October 18 as kick-off date for United Fund campaign

If you don't give a damn about people, read no further.

If you care, though, think about the United Fund of Long Island, which this year needs $4 million to help support 19 non-profit hospitals and 60 voluntary agencies.

Grumman kicks off its annual in-plant United Fund campaign on the 18th.

Over the years, Grummanites have seen the meaning of caring. They've seen the results, often directly and personally. In fact, if one is to take an over-all statistical look at the Fund's significance, then one in four of Nassau and Suffolk's two and a half million people have benefitted. In this instance, the benefits mirror the needs.

But numbers aren't the really important thing. What matters is human life. That's not a quality to be measured objectively, a quantity to be weighed on any scales. There are the "unassessables" that are "the little differences" that make every person unique—and beyond full analysis. Call them human factors, the stuff of life . . . which, on occasion, is flawed.

Take cystic fibrosis, for example, or mental retardation, or cancer, or kidney ailments. Take the so-called ordinary diseases and ills that put people into hospitials, medical centers, rehabilitation and medical out-patient institutions.

Takes money

Well, it takes money to run them, to acquire needed instruments and machines, to develop special rehabilitation programs, to pursue research; in short, to help people. Somebody has to provide the wherewithal. **If you don't do it, it won't get done.**

A convenient and well-tested way to do your share to see that needs are met is to hop on the payroll deduction plan; most Grummanites have. All you need to do is to fill out a payroll deduction authorization card—which will be provided you. After that it's automatic. And as many people have remarked, you don't worry about what you don't see. You're scarcely aware of it.

Others are, though: the recipients.

And the organization of the Fund itself is a great help. Without the Fund, each of us would be subjected to multiple individual solicitations. Some 80 times a year there'd be people knocking on your door giving you a pitch . . . and each one for a worthy cause. The Fund packages it all together in one tidy bundle, the only all-in-one campaign for social and medical and character-building agencies and hospitals on the Island. Just one contribution covers them all. . . .

Commitment to future

"There's another way to look at the United Fund," says Bill Zarkowsky, President of Grumman Aerospace and, this year, chairman of the Industrial, Mercantile and Commercial division of the UF. "Call it a commitment, a responsibility to succeeding generations. It's an investment in the future, a way to help assure that whatever we have today is going to be better in years to come, not just for you and me but for all Long Islanders."

Soon you'll receive a message from the Company, one if you're already enrolled in the payroll deduction plan, another if you're not. With the former will be a window sticker (to show you've contributed); with the other there'll be a payroll deduction card.

The Employee Services Office also will provide you with many additional materials.

In addition, to add a little spice, there will be a drawing in which those who've signed up may win a prize. Prizes will be announced in the next edition of Plane News. It's just a bit of icing on the help-your-neighbor cake. . . .

Think about the future. . . . think about the United Fund. . . .

Weighing in. **This little tyke gets weighed in at Cystic Fibrosis Clinic of L. I. Jewish Hospital to check his progress in fight against disease. (Photo by Nat Scherer)**

United Fund appeal

Thank you for your participation in the United Fund of Long Island. Through your contributions to the Fund during the past year you have enabled many local hospitals and voluntary agencies to provide assistance—and in some instances new hope for the future—for a great many Long Island residents.

As our Long Island community continues to grow, so too do the needs of our collective families. Providing the facilities and services necessary to meet these needs is an ongoing task, one that we cannot hope to fulfill in a single year.

We urge you to continue your contributions to the United Fund. *If you don't do it, it won't get done.*

Lew Evans Bill Zarkowsky

Space team heading toward showdown on Shuttle

The Grumman/Boeing team and their two major Space Shuttle competitors, McDonnell Douglas and North American Rockwell, are pounding along toward the home stretch now—the Request for Proposal date—each team determined to design a Space Shuttle combination that will prove to be reasonable and practical for pushing out beyond today's space horizons. Said Vice President Larry Mead, director of the Space Shuttle Program:

"The RFP is close upon us, and we're getting geared up for our major proposal activity. NASA's date still appears to be mid-December and we're counting on a maximum effort on the part of all Grumman departments to back us in this biggest piece of space action that's anywhere around."

Shuttle timetable

A Space Shuttle timetable roughed out by the National Aeronautics and Space Administration now calls for the RFP on December 15, a reply (the Proposal) back to NASA in late February ("what we propose to do, how we intend to do it, and the costs"), and NASA's commitment by mid-1972.

"We're looking now at an orbiter with all fuel tanks external and expendable, and a reusable S-1C Boeing booster. That's the baseline system we're working with," Mead said. "With external tanks we can reduce the cost of the orbiter because it will be smaller and lighter. And then we're concentrating on more off-the-shelf Apollo and commercial type hardware in a further effort to bring costs down," he explained.

"Last month we got a six-week add-on study contract from NASA for $100,000 to make a study of low-cost avionics systems. Boeing and Grumman have an industry team looking at three different approaches; they include GE, RCA, Philco Ford, Intermetrics, Radiation Inc., Sperry, Litton, and Hamilton Standard."

Avionics is a major cost element in the Shuttle Program. This study is due November 1.

NASA was scheduled to have a combined team from all NASA centers at Bethpage last Wednesday to review progress on that study. The avionics effort can be seen as an example of the monumental coordination evident among the Shuttle (Spaceplane) companies, their consultants, and all NASA sites these past 20 months.

About the cover

In the wondrous and magical world of the child, where everything is in the present, there's no limit on the future—even when there are defects, such as deafness, as is the case in this photo of children at the Westbury School for the Deaf, an agency of Catholic Charities. (Photo by Bob Settles)

Navy turns on E-2C production

The Navy gave Grumman a full production go-ahead on the E-2C Hawkeye last week by awarding the Company a contract for approximately $156 million. It signaled a complete production turn-on for the first 11 Hawkeyes, the first lot that will be delivered to the Fleet.

At Bethpage late last month, the Hawkeye development team flew the E-2C (M-1) two days ahead of schedule following completion of layup for installation of a new data-link system and passive detection gear. Now the E-2C team is pointing toward the next major milestone: the Navy's evaluation of the full Hawkeye operational system, scheduled for next January.

Lillian Nigro eases typing load, picks up bond jackpot to boot

You might think a woman would hesitate to tell a computer what to do, but not Lillian Nigro of Product Support Pricing, Plant 34F. Lillian noted that summary lead-lines that were being typed on offset mats 170 times a month could just as well be printed by computer, thereby greatly reducing the typing load. She made the suggestion, it was adopted, and the Employee Suggestion Committee presented her with $150 in Savings Bonds. Girls CAN win—and undoubtedly would—if only they'd submit more suggestions.

Lillian Nigro

The major money at the August meeting, however, was earned by Bill Kotzky of Measurement Standards Lab, Plant 12, and by Lacy Wolfe of Manufacturing Shop at KSC, Plant 83. Kotzky's idea, estimated to save the Company $4,900 a year, brought him a $300 bond award. His suggestion was for a universal resistance calibration selector box for the calibration of force links, load cells, torque transducers, and such. The selector box has resistors so that when one specimen is set up and connected to the box, immediate readings are fed to an automatic printer for calibration records.

Wolfe's award, also for $300 in bonds, stemmed from his work as an electrical technician on LM. To eliminate contamination of batteries sometimes caused during the activating of the fluid (KOH), he suggested using a millipore funnel filter when activating LM corporate and flight spacecraft batteries. This cuts discrepancy reports and inspection time and "increases the confidence level on a very critical operation."

Stanley Roberts of Configuration Data Management, Plant 34A, received $250 in bonds for suggesting that Link Division supply F-14 cockpit motion system data that had already been developed for F-4J aircraft. A substantial saving was realized over the original price quoted.

These additional awards were presented by the Employee Suggestion Committee:

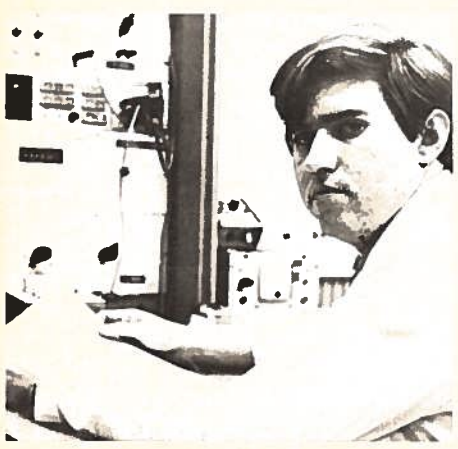
$200: Manuel DaCosta Jr., Instrument Aircraft Test, Plant 5; Richard J. Phelps, Quality Control Inspection, Plant 83; Fred Passamonte, Tool Fabrication, Plant 2 (terminated); Henry Piaseczny, Tool Fabrication, Plant 2.

$175: Russell W. Squires, Machine Shop, Plant 3.

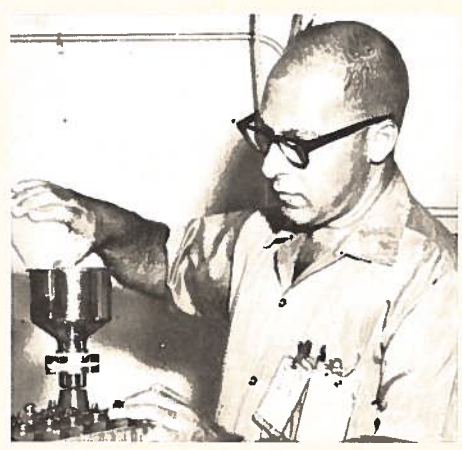
$100: Frank H. Andoos, Flight Data, Plant 4; John J. Cataldo, Industrial Control/Maintenance Engineering, Plant 30; John Ford and Matthew Pilato, Avionic Installation, Plant 1 (each $100); Herman C. Kovler, Tool Fabrication - Templates, Plant 2; Walter J. Monroe, Quality Control, Plant 83; Michael Ruzyla, Maintenance, Plant 3; Michael J. Sassano, Analog Hybrid Applications, Plant 5.

$75: Anthony Castellano, Component Application & Design, Plant 1; Edwin Welch, Drafting, Plant 1; Michael F. Hlinko, Model Design, Plant 5; Paul Asmussen, Tool Fabrication, Plant 11; Carmine Urce, Model Shop, Plant 5.

$50: Russell A. Blair Jr. and John Herlihy, Plexiglass, Plant 27 (each $50); Thorer Christianson, Maintenance, Plant 12; George T. Gluick, Cafeteria Accounting, Plant 30; Ronald Klein, GSE Reliability, Plant 34; Frank Malenovsky, Inspection - Mechanical, Plant 3; Charles Sohl, Donald Reuss, John Brown, and Chesley Greening, all Manufacturing Scheduling (each $50); Lawrence R. Wilman, Fiberglass, Plant 27.



Bill Kotzky



Lacy Wolfe

Meyer earns Doolittle award

It was a happy reunion for Senior Vice President Corky Meyer and a number of his old test pilot buddies a couple of weeks ago in Beverly Hills, California. It happened to be the 15th annual meeting of the Society of Experimental Test Pilots and Corky, a founding member who was later made a Fellow of the society for his contributions to test flying, was in line for another award by the group.

Meyer tested Grumman planes from the early forties to the mid-fifties, then embarked on a career in marketing, international sales, and, finally, manufacturing. This time, Corky, now director of Product Operations, was being honored with the Gen. James Doolittle Award for his contributions to the technical management field.

Corky Meyer

Tanker story

The Intruder in-flight refueler, the KA-6D tanker, has made a hit with the Marines. When Marine All Weather Attack Squadron 224 became the first Marine attack squadron to fly and maintain its own KA-6Ds, the advantages were quickly apparent. According to Maj. Bob Gondek, acting executive officer of VMA (AW)-224, "The plane, which carries 26,000 pounds of fuel, can refuel any Marine Corps or Naval aircraft designed for air-to-air refueling. Our previous systems of inflight refueling were awkward to our jets because of the slow air speeds they required to complete the operation."

And, the major points out, because the KA-6D is a modified version of the A-6 Intruder that squadron pilots constantly fly, no additional pilots were needed to operate the tanker. The squadron's mechanics, too, have also been "cross-trained" to properly maintain the aircraft.

They've been honored

Joan Manahan of Health Systems has been named by the Suffolk County Conservative Party to receive the Lewis O. Juliano Award for 1971 in recognition of long and faithful service. Joan has been associated with the club for a number of years and has served in many capacities, including campaign manager for Assemblyman Charles Jerabek of Bay Shore. . . . Ron Kerr, an electronics engineer from Plant 25, was appointed recently to the Brentwood Board of Education after serving as chairman of the Citizens Advisory Committee on the school building program.

CALENDAR of events

Notice of events for period Oct. 22 - Nov. 12 should reach Plane News by **Tues., Nov. 2.**

Am. Radio Club: Wed., Oct. 20, 5 p.m., WA2LQO radio shack on the roof of Plt. 5. Emmett Goodman, Ext. 87125.

Amer. Weld. Soc.: Thurs., Oct. 14, 6:30 p.m., Pickwick Motor Inn, LIE, Exit 48, local chap., spkr. Wm. K. Johnsen of Sanvik Steel Co. on Metalurgical Viewpoints on Weld. of Stain. Steel.

Chess Club: Every Tues., 4:30-9 p.m., Plt. 3 Cafe, inter-co. tourn. Alex Ikonnikow, Ext. 7591.

Coin Club: Wed., 12:05-12:50, Plt. 25 Vendor Conf. Rms. Ken Hale, Ext. 1936.

Duplicate Bridge Club: Every Thurs., 5:45 p.m., Plt. 3 Cafe, partnerships arranged. S. Stone, Ext. 3652.

Engg. Mod. Soc.: Tues., Nov. 2, 7-9 p.m., Plt. 28, Rm. 1, bus. mtg. Joel Chesler, Ext. 87302.

Ex-Servicemen's Club: First Mon. of month, 7:30 p.m., Plt. 28 Audit., exec. & gen. mtg. Al Kordula, Ext. 87259.

Fencing Club: Mon. & Wed., 4:30-6:30 p.m., Plt. 30 Cafe, basic instr. & competitive fenc. Joe Campisi, Ext. 87587.

Flying Club: Fri., Oct. 8, 5 p.m., Plt. 28 Audit, month. mtg. M. Gerry, Ext. 1396.

Huntington Toastmaster Club: Mon., Oct. 11, 8 p.m., Allstate Bldg., 201 Old Country Rd., Melville, main fl. conf. rm., educational, effect, comm., & Area 17 Humorous Speech Contest. T. Campbell, Ext. 3157.

Retiree Club: Wed., Oct. 27, 6 p.m., Holiday Manor, annual dinner. GAA, Ext. 2133.

Rod & Gun Club: Wed., Oct. 27, 5:30 p.m., John's Oasis, Hazel St., Hicksville, '72 ofcr. nominations & reg. mtg. Walter Schillinger, Ext. 57-617.

Ski Club: Wed., Oct. 13, 8:30 p.m., Holiday Manor, Hicksville Rd., Bethpage. William Flynn, Ext. 1823.

Soc. of Aero. Mat'l. & Process Engg.: Tues., Oct. 12, 5:30 p.m., Kings Grant Inn, Plainview Exit 46, LIE, Met. chap., spkr. Dr. Norman Sunshine of Whittaker Corp. on New High Temp. Resin Syst. Sonya Westerback, Ext. 2725.

Soc. of Mfg. Engg.: Mon., Oct. 18, 7:30 p.m., Graduate Ctr., Poly. Inst. of Bklyn, Rte. 110, F'dale, movie on Water Pollution, spkr., J. Hanrahan, Suffolk Co. Water Authority. Dick Knoll, Ext. 2859.

Soccer Club: Sun., Oct. 10, 12:30 p.m., Reserves vs Glen Cove at Grumman: 2:30 p.m., Premier team vs Bay Shore, Grumman; Sun., Oct. 17, 12:30 pm., Reserves vs Bye; 2:30 p.m., Premier team vs Patchogue, league cup compet., spectators welcome. Karl Herrnkind, Ext. 2430.

Stamp Club (Bethpage): First 3 Wed. of month, 5 p.m., Plt. 30 Cafe, swap., circuit bks., sales & auction, Marty Harow, Ext. 9172.

OBITUARIES

Plane News has received word that death has come to the Grumman personnel listed below. We extend sincere sympathy to relatives and friends.

GILBERT DANIELL of Facilities Maintenance, Plant 6, died September 26 at the age of 60. He had been with the Company 23 years. He lived on Chemung Trail, Ridge.

Rozzi views reduction in force, says RIF completed for '71

"RIFS are over for the rest of 1971," Vice President Tom Rozzi, director of Security and Personnel Services, announced early this week. "The final 'Reduction-in-Force' for Grumman Aerospace in 1971 took place last Friday, October 1," he said.

Reduction in force was not done because of poor employee performance, Rozzi emphasized. "If business conditions improve, many of those who have been terminated will be recalled,"

Early in 1971 Lew Evans announced that it was going to be necessary to reduce the 27,500 work force of Grumman Aerospace because of continued decline in military aircraft and space budget expenditures, and because of the completion, or near completion, of several production programs. Normal attrition (retirement, leaving for another job, health, and various reasons) has accounted for about **50 percent** of the reduction in force. Employment now stands at approximately 24,000 people.

"We want everyone to understand that those who were separated were not summarily dismissed," Rozzi said. "Grumman Aerospace has not found it easy to determine who would leave, and every effort has been made to be fair." He noted that the approach was to give attention to the specific job categories that had to be reduced because of lack of work, and then to determine how many employees would be needed for the jobs that remained.

Each person affected by the RIF was reviewed by the department involved, and if an employee had long service, his termination was reviewed by a Corporate officer.

Review Board

A Termination Review Board was set up to assure a fair and consistent approach toward termination. This Board was made up of eight employees representing each of the major functional areas of the Company—Technical Operations, Security and Personnel Services, Program Management, Treasurer/Finance, Operations Planning and Scheduling, and Product Operations. They reviewed each case individually to take into account whatever skills each employee had and to give him full consideration. If an employee questioned his selection for RIF, representatives of Personnel Relations were available to review his appeal, and further appeal could also be addressed to the Termination Appeal Board.

Placement effort

The Personnel Development Department had a 10-day period before termination in which to seek for those leaving the Company a transfer within Grumman Aerospace or one of the Grumman Corporation subsidiaries. If that was not successful, the employee was provided with a list of job openings in outside companies, further counseling if necessary, and information on unemployment insurance. Once terminated, he had an additional 31 days of coverage for himself and his family under the Grumman hospital, surgical, and major medical plans.

Life insurance, except for double coverage on accidental death, is automatically extended for 31 days following termination.

Financial

Anyone terminated because of a RIF receives severance pay, based on length of service, supplemented by any balance of paid absence allowance and vacation pay that may be due him.

"We are glad this reduction in force need not continue for the rest of this year," Rozzi said. "We've tried to be fair and honest and objective. I'm sure every one of us hopes that the next few months will see an upturn in the aerospace industry. Competition was never keener than now."

Name Larson head of Contracts; elect Malloy Ecosystems V.P.

Rolf Larson is Grumman's new director of Contracts, succeeding Pete Oram, whose appointment as F-14 Program manager was announced in July. Larson's office is in Plant 5, Ext. 1043. He reports to John O'Brien, Administrative Vice President.

His career at Grumman somewhat parallels Oram's, in that both started in Correspondence in 1959 and became assistant Contract administrators and then Contract administrators within a short time.

In August of 1964 Larson was named business manager, and then, 2½ years later, deputy assistant director of Contracts, branching off to serve as Finance manager of LM, February '68 to November '69. About the time Oram became director of Contracts, Larson became the deputy director, a post he occupied while Oram attended M.I.T. as a Sloan Fellow. All the ramifications of contract negotiation within the LM and F-14 contracts have seasoned Larson for his new responsibilities.

Acting through his deputy and assistant directors, he establishes policies and directs the operations of the Contracts Department, as well as keeping the Corporate officers apprised of potential contractual problems and recommendations. "We maintain very close relations also with the Legal and Accounting Departments in contractual matters," he pointed out.

Larson was graduated from Hofstra in 1956 with a Bachelor's degree in Business Administration. He likes to bowl and swim, and a childhood spent in Freeport around the boatyards has given him an affinity for painting, for refinishing furniture, and for working with his hands. He, his wife, Jacqueline, and children Leanne, 12, and Kenneth, 7, live in Huntington.

Marketing director

Bill Malloy, director of Marketing for Grumman Ecosystems Corporation, last month was appointed a Vice President of that young Grumman subsidiary. And since Ecosystems has a very short history as a corporation, and a future full of long-range plans, Malloy's days should be crammed with marketing strategies, advertising campaigns, consultations, and proposals. Ecosystems activities include environmental, waste treatment, pollution monitoring, coastal zone management, resource planning, and geophysical exploration programs.

Bill Malloy was manager of Test and Operations on the Earth Orbital Shuttle Program during 1970 and director of Support for Space Programs in 1969 and 1970. From July '66 to July '69, he was assistant Program director for Support on the LM Program. His first job there was to improve the Ground Support schedule, and then he became assistant Program manager and later assistant Program director for Support. Previously he had managed plans and programs for Product Support for 2½ years, '64-'66, and in his first years with Grumman, 1959 to 1963, he had been instrumental in helping organize the Product Support Department.

Rolf Larson
Director of Contracts

Bill Malloy
New Ecosystems V.P.

Malloy likes exploring untamed territory. "I felt ready for a new field," he said of his latest assignment. "And much of the technology we are using in Ecosystems was developed in the space field, so it's not a complete divorce." He noted that it's quite different negotiating with many, rather than just a few, customers.

Bill, his wife, Frances, and their children John, 12, Karen, 11, and Mike, 7, live in Fort Salonga. Bill likes golf but has little time for it. All five Malloys thrive on skis.

plane GRUMMAN news

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Editor
Brian Masterson

Associate Editors
Claire Imrie
Al Wehren

Ads, Distribution
Dorothy Zeeb

Official Photographers
Presentations Services

Telephone
Plane News: 3293
Plane News from outside line: LR 5-3293

Helpful hints for eyeglass safety

Don't assume you're safe just because you've picked up safety glasses. Ah, no; there's more to it than that.

There are some obvious no-nos, like wearing glasses that are marred or damaged, or loose and ill-fitting. Naturally, dirty lenses don't help: Clean them with warm soap and water (or an approved lens cleaner), wiping in a circular motion. **Never** use silicone tissues or solvent to clean plastic lenses.

In the care and coddling of safety glasses, there are a few more in the never category. A sampling:

- Never lay glasses face (lens) down.
- Never leave your glasses in your car in warm weather—especially on the dashboard. Causes distortion, you know.
- Never put your glasses on your forehead or on the top of your head. That causes displacement and a good chance of smeared lenses.

On the positive side, make sure the lenses are right for you and that they fit well. Also, when you're not wearing your glasses, place them inside your glass case. Be aware, too, that sometimes the inside section of your glass case gets dirty, and if you can't clean it, get a new case. Your optometrist will usually provide that free.

Simple, common-sense steps to protect yourself and your glasses: The most essential team in sight.

Space program providing vital scientific spinoffs in medicine, earth sciences, and global communications

"What good is the space program?"

Sen. Howard Cannon, in hearings held about a year and a half ago, brought up that rhetorical question by referring to physicist Michael Faraday's answer to the question, "What good is it?", (concerning a topic unrelated to the space program). Said Faraday:

"What good is an infant?" and he followed that up with the observation that "Some day you will tax it."

But, true though it is, the response to "What good is the space program?" strikes deeper waters, and in probing them there is some history. It's recent history, a traumatic national experience. It began with a strange new foreign word: Sputnik.

For an America bred in the belief—and perhaps the smugness—that it commanded all the summits of society anywhere in the world, little Sputnik triggered shock waves of enormous magnitude. Could we really say that we were number one?

"Sputnik pricked the pride of the United States," says Grumman Vice President Dr. Ralph Tripp, who heads the Lunar Module program. "It stunned us. And we thought that the Russians might make us look like a second-class nation."

Space race

President John Kennedy set the goal: Put an American on the moon by the end of the Sixties. The so-called race was on, and hundreds of thousands of people from thousands of companies joined together — stumbling at times — to reach the then unreachable goal. It became, as Tripp says, "the greatest peace-time effort in the history of the world. Yes, we had marshaled great forces before, in times of war. But war is a nasty business, something we had to do, and when it was over people were glad to leave. That wasn't the case with the space program. People joined by choice, reveled in it, and when cutbacks in the program came, they hated to leave. There was an entirely different attitude."

It can be said, too, that there's a great difference in attitude between the Sixties, when our astronauts first landed on the moon, and the Seventies (so far), when some people asked such questions as: Wasn't it all just billions of dollars for the sake of pride? What did we actually get for all those bucks? How can we, as a nation, justify spending great sums of money on space gamesmanship when there are so many pressing priorities right here on earth, and especially in the United States? Why not get at the jobs that really matter—poverty, race relations, pollution of our air and water and land, crime in the streets, medical care, education, etc.?

'Lost our perspective'

"Somehow we seem to have lost our perspective," says Tripp. "Somehow we've failed to communicate with the man in the street. People have only a hazy appreciation of how much the space programs have meant to them; and too many people think the whole business has been a series of space spectaculars unrelated to what's important in the real every-day world.

"Take the question of priorities, for example, and ask whether funds for space exploration interfere with down-to-earth priorities. I recall something in Aviation Week that put things in better perspective. Since 1961, costs for space were $38 billion while costs for the military totaled $624 billion and costs for health and welfare were $340 billion."

J. F. Clayton of the Bendix Aerospace Systems Division pointed out in the Aviation Week article that "The ratio of expenditures on the social programs is growing. In 1971, this fiscal year, the country will spend $77.2 billion on social programs, slightly greater than the defense budget of $73.5 billion compared to the space expenditure of $3.265 billion. That is a ratio of 23 to 1 in favor of social programs. We could close down the NASA establishment, let facilities at Cape Kennedy go back to jungle. We could terminate the employment of all aerospace engineers and scientists. We could close the university laboratories. Save the $3 billion and spend perhaps $80 billion next year on social programs. Does anyone seriously think that the country's interest would be served?"

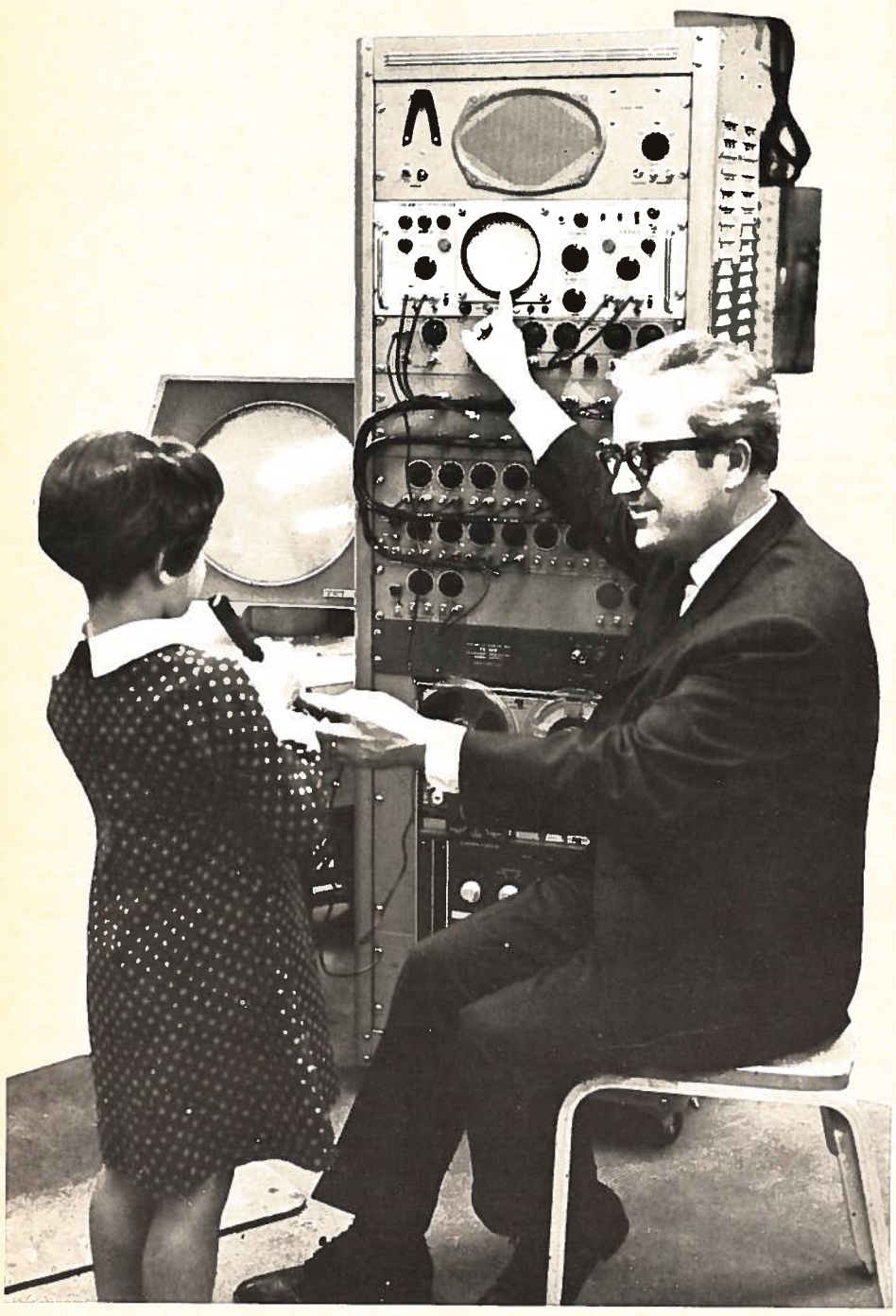
The article ends with this statement by Clayton:

"The suggestion of an either/or choice between technological and social advances ignores the fact that without a technology base we will not have the capability to address ourselves effectively to any national problem."

For the disbelievers, those who see space exploration as a costly boondoggle with no (or little) benefit, there is ample evidence to the contrary— as proved last year during a Senate hearing before the Committee on Aeronautical and Space Sciences when Dr. Thomas O. Paine, then the administrator of NASA, testified.

Impact on society

Paine spoke of the nation's first satellite, Explorer, a 30.8-pound earth-orbiter which stayed in space for 12 years, during which time the Van Allen Belts were found; and he spoke of the Mercury, Gemini, and Apollo programs, each of which, he said, had an impact



Voice watch. Deaf since birth, a little lass speaks into microphone and watches to see dot on an oscilloscope—a visual way that may assist people to speak clearly. Dr. Huseyin Yilmaz did work under NASA contract. (NASA photo)

Anti-shock blanket. An exa
this radar relective rescue blanket
of aluminum and can be used to sup
tect against

"on our society, our technology, our industrial economy, and our planetary environment. I shall touch upon the direct benefits to science, to meteorology, to communications, and to management; and outline the new processes whereby NASA is more effectively transferring technical information and getting it used throughout our socio-economic system."

Scientific breakthroughs

The impact on technology was vast, he said. He cited computer systems that became faster and more complex than ever before, for example, 40,000 computer words for Mercury and 1,500,000 for Apollo. Then there's the NASA "research in aerodynamics and engines, materials and structures, guidance and controls, coupled with flight tests and wind tunnel experience," all of which directly supported the aero-industry and their passengers. Very high standards of safety were demanded and met. And he noted that the aerospace industry was "one of our great producers of national wealth."

Paine referred to "NASA's 'area rule' which resulted in the 'coke bottle' shape of all modern high performance aircraft," and in ground simulators and grooved runways and inertial guidance systems. He spoke of Chrysler's work that led to "the automated checkout and launch sequence equipment for the Saturn launch vehicle," which also led to a Chrysler innovation: dynamic testing of all of its distributors and windshield-wiper motors.

New resources

Space photography allows us, he said, "to search for new resources, to monitor water resources, agricultural activity, and forest stands, to explore the oceans, and to assist in large-scale civil engineering." The true shape of the earth is known because of space geodesy, making mapping and navigating more accurate. And he said:

"The discovery of the Van Allen Belt of trapped radiation, of the magnetosphere within which the Van Allen Belt lies, and the solar wind, together have revolutionized all earlier concepts of space around the earth. This new picture of the earth's upper atmosphere and the properties of near-earth space are important in helping to understand how the sun's various radiations literally control our atmosphere, including our weather and climate."

(That huge nest of problems to be solved will be discussed in a follow-up article in Plane News.)

As Paine observes, "Communications are the nervous system of organized society," and perhaps what has occurred in this area demonstrates the remarkable strides already made, and provides hints as to the future. There is a network of communications satellites that, quite literally, "interconnect every part of the world," in Paine's phrase. These satellites, products of space technology, make international communications (including TV) possible. Take the telephone: 18 billion calls were made in 1960, nearly 200 billion in 1970. And there's television, that phenomenal medium that gave about one-sixth of the world's population—**more than half a billion people**—a front-row seat at that historic moment when man first set foot on the moon. International televised events, relayed by communications satellites, have become commonplace, and it's only the beginning as the peoples of the world get to see—and hopefully know—more about each other's cultures almost at first hand. Certainly the instruments are present to make the point that (as H. G. Wells once said) "Our true nationality is mankind."

This ties in well with Paine's statement that "Another important class of achievement from NASA's programs is the demonstrated national capability to organize and manage very large, long-term, global technical enterprises — meeting difficult performance goals on schedule and within budget." It can be done, Paine believes.

Technology spinoffs

Technology transfer shows the benefits of space programs. Of a long, long list, a few may ring bells:

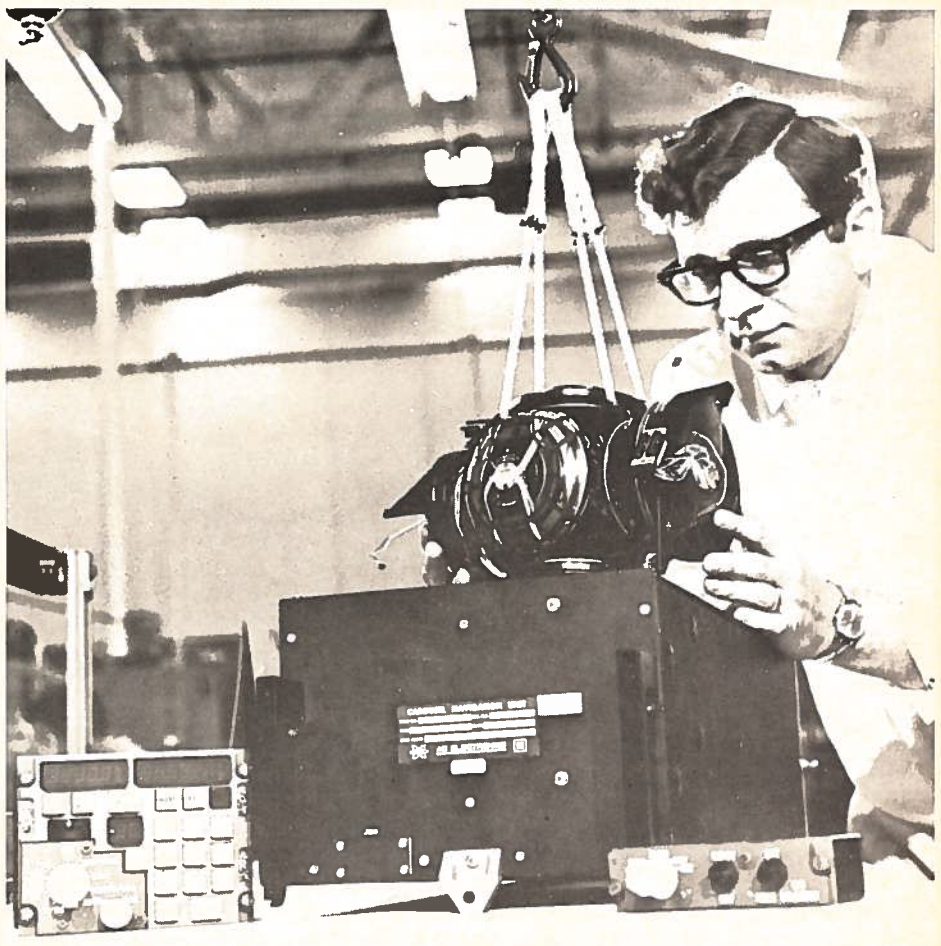
- A shock absorber system for guard rails and vehicles
- Computer techniques to improve the clarity of clinical X-rays
- An imposing array of fire-retardant materials, running from textiles and foams to plastics and paints
- New forms of non-destructive testing, such as electron and neutron radiography, eddy current testing, and ultrasonic testing
- A light-weight portable router that can machine heavy subassemblies in place
- A device developed at the Ames Research Center that is to be used at the Brain Research Center to isolate, measure, and monitor individual brain cells
- Telemetry systems used now in telemetering blood pressure, electrocardiograms, electroencephalograms, impedence pneumograms, and electromyograms
- Inert-gas welding technology, developed by the Marshall Space Flight Center, is being used by COMSAT
- A device that permits disabled people to direct and control their wheelchairs just by flicks of an eye

Pipe lift. **Helicopter lifts a section of plastic mortar pipe—called the most significant improvement in pipeline material in 50 years—to move it to a construction site. Material is spinoff from space program. (NASA photo)**

Hundreds and hundreds of these space-mission-derived articles, procedures, systems, and so on are here, as matters of fact; even more loom on the immediate horizon. Beyond that . . . who knows. It seems a safe bet, though, that we are witnesses to just the raw beginnings.

Once started, progress continues; only its rate is in question.

(In the next issue: A look at the future in space benefits.)



Apollo spinoff. **Research and development efforts for the Apollo guidance and control system led directly to a valuable product—this AC Electronics Carousel navigation system used by Boeing. (NASA photo)**

of spinoff now in use commercially is coated with one-millionth of an inch accident victim with warmth to pro- (NASA photo)

Old Timers improve with age, rap Misfits for Plant 1 crown

The clock never did strike 12, the coach didn't turn into a pumpkin, and the Cinderella team in Plant 1 didn't have the unhappy experience of watching their spanking new duds turn into rags. It looked for a while as though that were going to happen to the Old Timers in the final playoffs for the softball championship of Plant 1, but Father Time must have taken a hand in the situation and held back the clock—not forever, but just long enough.

When a team averages 42.8 years it takes a little time to warm up. So it wasn't surprising that the Old Timers dropped the first game of the finals to the Misfits, but in the second game, with Stan Musinski on the mound, Ken Smith and Joe DeSanto each contributed a single and double to pace a 6-3 victory to tie the series.

Rally in finale

And that was only the beginning. Behind by one going into the fifth inning of the next game, the Old Timers rallied for three runs, then held on for dear life as the Misfits appeared on their way to tieing it up before DeSanto made a leaping stop for a put out of a smash down the first base line. Smith and Jack Caulfield smacked doubles in the 3-1 victory.

In the finale, the Old Timers jumped off to a five-run lead in the first, then while they were catching their breath, the Misfits put together a seven-run spree to take the lead in the third. But a four-run burst in the fourth, and two more in the fifth and sixth assured the Old Timers of a 13-7 victory and the Plant 1 title. Ken Smith's two singles and homer, and a triple by Buddy Groeber were among the hitting highlights for the winners, while Hank Szubzda, Des Douglas, Steve Kish, and Frank Curcio were Misfit standouts.

George Blanda should move over and make room for a whole team of old pros.

It wasn't what you'd call a walkaway for Research in the final playoff game against the Vikings for the Monday after-hours softball crown, but the 4-3 victory was all that was needed. After Research trounced the Hawkeyes to gain the final playoff position, Charlie McLaughlin, Herb Levine, and Joe Lisa collected a total of eight hits while John Miller, John Brook, and Ken Keen produced three double plays to help overcome the Vikings.

Winning habit

The Hi-Balls have finally found out how to win some ball games and they're enjoying it. In their last two games, the Hi-Balls crunched the Hits, 16-8, and the Sloe Pokes, 6-3, and are now ready to take on the Tac Jammers in the finals of the Wednesday twilight league. Larry Anderson and Al Trabold contributed five hits each in those two contests, and Bill Sheridan pumped two homers, a double, and a single.

But in the Tac Jammers they're liable to find themselves engaging a human buzz-saw named Rob Ogilvie. In a 9-4 win over the Side Lobes, Rob rapped four hits, one a double, and another a grand slammer. Bill Dargis and Harvey Fromer each had two hits in that tilt. Earlier, Dargis and Charlie Dietz supplied the punch as the Jammers bumped the Tom Cats 5-1 in the first game of the Wednesday playoffs.

Pitching pheenom

Jim Dimitry is turning into some kind of pheenom in after-hours play. He has already twirled Simulation to a 13-0 record in Tuesday after-hours action, and lately he has been doling out hits as carefully as twenty-dollar bills. And that's carefully! The latest was a 19-1 victory over the Titans in the first game of the final playoffs, and the lone tally scored against Dimitry came in the last inning.

He had help, though. Glen Spacht crashed five hits, while teammates Ed Gabriel, Walt Valkenaere, and Joe Nieves added three each. Nieves hit one for the circuit.

After-hours swinger. **While four of his teammates and opposing catcher Jack Ferrente look on, Art Frasca of Simulation swings mightily only to produce ground out in 6-2 win against Titans. The victory clinched the Tuesday after-hours softball championship for the third consecutive year for Simulation as the team ran its record to 41-1 over three seasons. (Photo by Bob Settles)**

Going up. **Nothing like working up an appetite with a game of volleyball. Here, some picnickers get in shape for Maryland cookout that featured roast bull.**

Annual get togethers popular

When anyone said "bull" around Glen Arm, Maryland, a couple of weeks ago it wasn't in response to something big in the offing, but more in anticipation of it. Cause bull—of the roasted variety—was the main picnic fare for Glen Arm in the annual get together that involved hundreds of families from Plant 56 and from the Goddard Space Flight Center at Greenbelt.

Senior Vice President Corky Meyer and Vice President Ralph Tripp led a contingent from Bethpage to help celebrate as more than 900 people attended the event. Before taking on the king-sized cookout menu, however, the picnickers warmed up to their taks with games and pony rides and by just plain relaxing. And that's no bull.

Start of something big

About a hundred miles or so west (and a couple of weeks later), about 800 people assured the success of the first (ever) picnic at Plant 58 in Sterling, Virginia. It was, according to Plant 58 general manager John Otterstedt, a "grand slam" affair. And if anyone ran **into** the picnic grounds, it's not likely anyone ran **out.**

Why? Pit barbecued chicken, "sloppy Joes," franks and kraut, cold beer (a sufficient amount), soda, and ice cream, that's why. And also on tap—roller skating. And a pied-piper clown who kept everyone laughing. They're all looking forward to the next one, too.

Finally, a prize

Although the crowd has been slimmed somewhat since the first couple of picnics at Houston, the spirit is still high. Jean and Jack McNamara were on hand to help with the flag raising, and following that ceremony, the assemblage pitched in to whittle down the stacks of Nathan's red hots, beer, and soda.

Horseshoes, an egg-toss, and door prizes helped fill out the outing calendar. Among the many winners were Tom and Phyllis Izzo, who after throwing eggs at each other for 17 years, wound up with more than egg on their face. They finally won a prize.

Burlingame fires 231-629 to highlight early pin play

Although Ed Burlingame pinned together games of 200 and 231 to finish with 629 in Black league play recently, scoring has been less than spectacular in the opening weeks of Grumman bowling action. Carmine Vitale came through with 201-208-608 and Ted Dija finished with 206-207-607 earlier, but next in line were Art Grey, 569; Rosey Graham, 565; Leon Maggio, 556; and Bill Voigt, 555. . . . The "600" circle was vacant in the past two sessions of the Red loop, with Charlie Marchessault closest to that select ring with 221-588. Herb Pirkl closed with 576, Ray Sutton, who tossed a big 250, could do no better than 570, and Ted Martines was just behind at 568.

Jack Tracy took an early lead for individual scoring laurels in the Classified loop with his 211-222-593, edging out Bob Dudonis's 201-201-588. In previous play Dudonis threw 202-579 while Jack Samborsky hit 205-576. Other highlights included Hank Burkhardt's 214-565, Mike Mustapich's 571, and Larry Orlando's 559. . . . It's another season at Patchogue Lanes but the Good Friends and the Mingas (formerly Doing our Thing) are at it again. And Maggie Gaynor and Norma Landin are striikng the anvil for women's lib with a vengeance: they hold the top averages on their squad after three sessions of the Patchogue Mixed circuit. Big noise in that action was Ginny Geer's 218-508 for the Rebels. Marty Larcombe flipped 204-577, Gene Burgess had 553, and Dick Lindstrom collected 550. Earlier, Ken Becker's 220-589 set high marks for the league, with Val Lindstrom's 215-546, Joan Burgess's 200-507, and Maggie Gaynor's 506 among the bright spots.

Ups and downs

Phil Barton must have felt as though he were on a pogo stick in the Hawkeye Mixed loop as he fired a hefty 246 but ended the night with 563. Tom Murtha's 603 took string honors in a later session, while other top scores included Tom Cava's 205-582, Ernie Neves' 222, John Magliano's 556, Joe Siniscalchi's 225, Ann Wuestmann's 517, and Fran Zuk's 498. . . . Bethpage Owls in the limelight: Earl Schroeder, 234; Tom Iovine, Ernie Jenkins, and Tom Szwejowski, 221; and Rudy Dunkley, 212.

In the Outpost league, Frank Magri got the Kingpins off winging with 222-625, while Jerry Casale finished with 202-576 and Joe Ammirati and Manny Nash both closed at 567. . . . Tom Rivello holds both marks in the Aerospace circuit with 236-571, and in last week's action Carl Emers' 223, Frank Apa's 210-563, and Don Evans 206-562 were the only scores that approached those figures. . . . Rocket league highlights: Tom Maurici, 554; Ted Cisek, 228; John Cortese, 212-568; Charlie Stump, 223-569.

Tough spare

You might get the impression that anyone who bowls in the Masters league would be embarrassed to find himself facing the 7-10 split. In the Masters? Well, Don Eivers, faced with that situation recently, converted that near impossible spare to earn for himself a continued berth in that circuit. Although Ray Moser's 238 and Phil Piacentini's 236 were a couple of sticks higher than Jerry White's 235, he added 221 to finish with 808 for his four-game set in the Masters, while Ike Washington put together lines of 204, 206, and 209 for a 796. Roy Moser's 248 and Fred Skirde's 811, set in earlier play, are tops so far for the season.

Tee champs

The Sand Baggers—Tony Carioli, Bill Sposato, John Merchant, and John Morgan — took first place in the Lunar league at Hauppauge Country Club, but Charlie Selock came in for a share of league honors by capturing an individual tournament staged at the conclusion of the regular season.

Besides winning the longest drive, Charlie took top honors for No. 1 men in the league by scoring a 48 in the 12-hole play, and helped his bid for individual laurels by scoring a one-under par on the first nine.

Bursey 'traps' title

The Grumman Rod & Gun Club held its first trap shoot recently at the Calverton gun range with 17 people participating. Marilyn Bolz of Plant 34 smashed the first bird in the competition. High shooter for the day was Hugh Bursey of Plant 7 who broke 46 out of 50 targets.

Jet tix go on sale

If you're a Jet fan, have some extra cash available, and feel lucky to boot, maybe you'll get a chance to see the New York entry in the National Football League from up close—like Shea Stadium.

Once again the Grumman Athletic Association has acquired approximately 180 tickets to each of the Jets' seven home games, and on Wednesday, October 13, starting at 5:30 p.m. in the Plant 28 lobby, those tickets will be up for grabs. If you're interested, be sure you show up on that date, submit your name to a GAA representative, and **wait** for the drawing to determine who will get first chance at the tickets.

Oh yes, there is a further consideration. The tickets will be $8 each for upper reserved seats and $6.50 for field reserve seats. As a person's name is drawn, he (or she) will be able to buy a total of eight tickets—no more than four for any one game—until the tickets are gone. Tickets must be paid for at the drawing.

The Jets will open up against the Buffalo Bills on Sunday, October 17; other opponents will be Miami , Kansas City, Baltimore, San Francisco, New England, and Cincinnati.

If you want further information, call the GAA office, Ext. 2133 or 2269.

List new guide for canoe fans

A new book, "Makens Guide to U.S. Canoe Trails," is now available to outdoors enthusiasts interested in exploring new rivers and streams in various parts of the country.

Thought to be the most complete compilation yet assembled, the book is intended by its author James C. Makens, Ph. D. of the University of Dallas in Irving, Texas, to show that there are good canoeing rivers in 'most every section of the country. In all, the guide lists thousands of miles of canoe trails, on some 900 rivers in 49 states.

Details launchings

The 86-page booklet details launching and take-out sites for most of the rivers, gives difficulty ratings and describes rough-water areas at various levels, and outlines points of special interest along the trails.

The trail directory, in a convenient glove-compartment size, will be available through many local bookstores and Grumman dealers . . . or direct from the publisher, LeVoyageur Publishing Company, 1319 Wentwood Drive, Irving, Texas 75060, at $4.95—plus 20¢ sales tax within Texas.

Those canoeists interested in challenging trails far from home will also find Grumman's "Rent-a-Canoe" directory useful, for sources for canoes in many areas, when car-topping is inconvenient. These are available through Grumman dealers, or direct from Grumman Boats, Marathon, New York 13803.

Moore 'shoe champ; Donovan, Allen doubles titlists

Dan Moore was well on his way to pitching a "no-hitter" in the three-out-of five game playoff series with Sam Newsome at Plant 3 recently before Sam finally got moving. But it was too late.

Although Moore never did completely blitz his opponent in the finals of the Bethpage horseshoe tournament, it was close enough. Dan flipped 21-0 and 21-0 shutouts, then finished with a 21-17 win to clinch the 'shoe title. In the 13-man field, Moore opened up his title search with a 15-21, 21-15, 21-13 triumph over Jack Damico, followed that up with a 21-17, 24-15 win over Dudley Agard, and finished with his victory over Newsome.

Sam had been doing pretty well until he ran into Moore. He started with a 21-8, 21-12 win over Charlie Motzer, edged Fred Allen 22-9, 21-20, and polished off Hugh Donovan 21-7, 13-24, 26-6.

Donovan and Allen didn't take kindly to being shoved out of competition without even a fling at the singles 'shoe crown so they did the next best thing—they teamed up and went on to grab the doubles crown.

It wasn't easy, however. In the finals, for instance, they had to go the distance — the full five games — before eliminating Vince Perniciaro and John Zaccaria, 22-9, 23-11, 17-24, 19-22, 23-17. Nothing had prepared them in earlier play for that set to. In fact, Hugh and Fred had a pretty fast trip to the playoff spot bouncing Charles Motzer and Jack Damico, 21-9, 22-13, and dropping Dan Moore and Ed Pilla, 22-7, 21-12.

Zaccaria, who teamed up with Mike DeLuca to take the crown last year, couldn't quite make it this year. After he and Vince Perniciaro put together a 22-17, 22-16 victory over Sam Newsome and Dudley Agard, the encounter with Donovan and Allen provided a different, and sadder, ending.

Bincarowsky 'wall' champ

It didn't take long for Nick Bincarowsky to zip through singles competition in Bethpage handball play and capture his second straight wall title. Bincarowsky, a Product Support engineer from Plant 34, won four straight games, the last one a 21-9 victory over Bob Montague in the final playoff of the double elimination action.

Nick started out by whacking Jim Campbell, 21-9, added a 21-0 whitewash of Tom Jenkins before squeezing past Montague 21-19 in the finals of the winners' bracket.

Montague dropped into the losers' bracket where he met and defeated Harry Nedmann, 21-4, to get in finals.

Gophers win first

The Grumman Gophers rifle team got off to a good start again this season by beating Mineola, 965-917, in the South Shore league. In winning their first match of the 1971-72 year, the Gophers' 965 was 10 points higher than their average of the past season.

Top scorers for the Gophers were Joe Moks, 197; Hank Womble, 195; George Hilton, 194; Dick Imgram, 190; Hans Forsch, 189.

Berka on target

Al Berka knows he can't be perfect, but the way he's been going at it lately in pistol competition, he wants to get as close as possible to that goal.

With 109 shooters on the firing line at the Dutchess County Pistol Tournament early last month, Berka shot a 2,606-62x to win first Master for the Service and Police Award. Out of a possible 2,700 points, Berka scored 873-27x for .22 caliber aggregate, 866-19x for center-fire aggregate, and 867-16x for .45 caliber aggregate.

Staying in shape?

Want to keep in shape this winter and get a little competition doing it? Why not meet with a number of other people from Grumman (men and women are invited) on Monday nights for volleyball action at the Pine Avenue School in Bethpage. The league will meet from 5:30 p.m. to 8:30 p.m. and no entry fee is required.

Interested? Call Tom Wood, Ext. 2377, or the GAA office, Ext. 2133 or 2269.

Wanted

BOAT TRLR.: Tandem for 20 ft. 842-5906.

RECORDS: Old & old record cat., radio mags., will trade records. CH 9-4557.

PIANO: For child beginner, reason. 929-4021.

FISH. EQUIP.: Any & all salt water. 669-6194.

SERV. MANUAL: For '65 Olds. 543-9307.

ROOMMATE: 1 or 2 engnrs. to share exp. & house in Syosset w/eng., 3 bdrm., new. paint. & lndscpd., no lease req'd. FL 2-8752.

For Rent

ROOM: Man share house w/sgl. gent., furn., kit. priv., nr. Grumman & stores. 731-5335.

ROOMS: Plainedge area, furn. bdrm. & kit., pvt. bath & ent., reason. 796-3631.

HOUSE: E. Quogue waterfront, furn., 4 bdrm., 3 bath, all appli., avail. to 5/20/72, $225/mo. plus util. HR 2-0628, after 5.

APT.: Lake Ronkonkoma, 3 rm., pvt. ent., bus. cpl. only. JU 5-6020.

CHAIN SAW: 18 in., day or wkend. rates, $15-$25. JU 4-6633.

ROOM: Bethpage, furn., bus. woman pref. PE 1-6105.

GARDEN APTS.: Patchogue, from $189. 475-6070.

ROOM: N. Massapequa, furn., nr. Grumman. 798-1676.

APT.: Lindenhurst, 3½ rm., 2 fam. house, pvt. ent., mod. kit. & bath, pvt. patio, $225/mo. util. incl. 893-1127.

NEW APT.: Patchogue areaa, comp. furn., w-w, all wood panel., 2½ or 3½ rm. Eilo Long, Ext. 57-229.

ROOM: Massapequa area, sep. ent., bath, nr. shop., woman pref. PY 8-3869.

HOUSE: Centerport, hvly. wood., nr. water, liv. rm., din. rm., 2 bdrm., Nov. occup., $300/mo. 757-2165.

ROOM: Levittown area, semi pvt. bath, pvt. ent., furn. 731-5335.

Car Pool

BRONX: To Bethpage. 212 298-0668, after 6.

SAYVILLE: Or Bayport to Plt. 30, 8:30-5 p.m. HR 2-1291, after 6.

PATCHOGUE: To Plt. 5, join or form. 289-5258.

BAY RIDGE: Bensonhurst, Bklyn. area to Plt. 25, 8-4:45 p.m. 212 256-3058.

CENTEREACH: To Plt. 30, 8:30-5 p.m. Frank Vagnoni, Ext. 86875.

Ride Wanted

LYNBROOK: Hempstead Ave. to Plt. 5. Rochell Brown, Ext. 6439.

BELMONT AVE.: & Sunrise Hwy. W. Babylon to Plt. 30, 7:30 - 4 p.m. 669-4576.

REGO PK.: Queens area to Plt. 5 vic. 212 592-9508, after 6.

Free

PRIVET HEDGES: In Oct. 681-8466.

KITTENS: Red, blk./wh. 289-5258.

GERM. SHEP.: Thorobred male, no papers, 6 mo., gd. watch dog & w/child, to a good home only. Eilo Long, Ext. 57-229.

KITTENS: Persian mix, pan train., will deliver. 585-1410.

KITTENS: 2 tiger, 2 blk. & wh. 271-1629.

GERM. SHEP.: Wh., pure bred, 7 yr., outside dog, loves child. 727-0045.

For Sale

MISC.: Baby car seat; baby food warmer; lady's roller skates w/case, sz. 7; lawn spread.; ski poles for 6 ft.; 15 in. wire whl. cov., $25 set of 4; 3x4 wallmirror; ceramic dish set for 4: 681-9588.

MISC.: New Bob Golby Spalding golf clubs, 8 irons, 3 woods, $75; K2 competition 200cm skis, $100; Look Nev/Grand Prix bind., $40; '57 Ford classic, retractable hdtp., blk. & wh., V-8, auto., $100; '58 Ford classic, retractable hdtp., red & wh., V-8, auto., $100. AN 5-7543.

TBL.: Antique round oak, 2 leaves, $60. 472-1806.

CAMERA: Konica, 80-200mm, Hexanon zoom w/case & guar., new, $200. 212 923-8509.

REFRIG./FREEZER: 19 cu. ft. G.E. comb., wh. 643-6586.

MISC.: Span. rm. dbl. divider, $50. 212 353-1153.

For Sale

TRAVEL TRLR.: 22 ft., tand. axle, '62 Kencraft, self-cont., slps. 4, shower, heat, monomatic. Ask $1800. 289-2738.

HOUSE: Port Jeff Village, 3 bdrm. cape, full bsmt., fieldstone firepl., screen. porch, plaster walls, natl. woodwork, treed, $600 tax. HR 3-3232.

HOUSE: Farmingdale, Lenox Hills, 3 bdrm. ranch. din. rm., fin. bsmt., air cond., blt.in vac., 2 refrig., xtras, $32,000. CH 9-3736, after 4.

HOUSE: N. Farmingdale, 3 bdrm. col. cape, front to rear liv. rm., form. din. rm., ctr. hall, den, 2 full bath, full cellar, gar., blt.-ins., extras, $36,990. 694-5751.

CHEVROLET: '69 cust. Impala, 2-dr., vinyl tp., pwr. steer. & bks., air cond., rear defrost., 4 new poly tires, orig. owner, 20,000 mi., $2,500. 248-0077, after 5.

OLDSMOBILE: '63 F-85, 2-dr., auto., pwr. steer., R&H, maroon w/wh. tp., $125. WA 1-0096, evgs.

FORD: '64 Fairlane 500, auto., pwr. steer., nds. muff., $200 or best offer. 433-8631.

SAAB: '62, wh., $250. 935-5190.

BARRACUDA: '70 Gran coupe, air cond., AM/FM stereo, cons., 318 c.i., 3-spd. stick, w/w, $2,100. 212 347-6516, evgs.

SAAB: '69, wh., R&H, std.; also, carved baby grand. 226-5585, after 6.

CHEVROLET: '68 Bel Air, orig. owner, 4-dr., 6 cyl., new exh. & bks., new '70 eng. w/5,000 mi., $1,150. 352-8128, after 7.

BUICK: '69 Grand Sport, blue w/blk. vinyl tp., blk. int., sport whls., Mich. tires, posi, 4-spd. Hurst, 350 eng. 328-1863, after 3:30.

CORVAIR: '64 conv., R&H, auto., $225. 269-6221.

CHRYSLER: '63 Imperial, 4-dr. hdtp., auto., full pwr., air cond., auto., hdlgt. dimmer & ant., seeker radio, $150. 732-3552.

CYCLE: '71 Suzuki, 125cc, 1,200 mi., $425. 621-0920.

LUG. RACK: VW, $20. 691-4018.

HONDA: '71, CL 350cc, 1,700 mi., 2 helmets, sissy bar, lock & chain. 884-6231.

MUSTANG: '69, 8 cyl., Hurst shift, 3-spd. tape deck, chrome whls. WE 5-4968, after 5.

STUDEBAKER: '59 Lark, 21,000 orig. mi., blk., 2-dr. hdtp., $200. 421-2289, evgs.

OLDSMOBILE: '68 Cutlass, 2-dr. coupe, auto., pwr. steer. & bks., 2 snows, die hard batt., new bks., grn. w/blk. int., $1,300. Paul Olenick, Ext. 2384.

WAGON: '65 Ford, auto., pwr. steer. & bks., V-8, 10 pass., $595. HA 7-5969, after 5.

PLYMOUTH: '62 Valiant, V-200, 4-dr. sed., auto., R&H, $225. MA 3-1196.

PONTIAC: '66 LeMans conv., V-8, 326, pwr. steer. & bks., yel./blk. 541-2055, after 5.

RAMBLER: '68 Rebel, 29,000 mi., std., stick shift, new batt., R&H, $795. AM 4-4297.

VW: '65 Bug, 34,000 mi., 2 new tires, ask. $725. GE 3-5279.

PLYMOUTH: '69 Fury III, 2-dr. hdtp., pwr. steer. & bks., air cond., w/w, vinyl tp., ask. $1,875. 473-5694.

VW: '63, orig. owner, new clutch, $395. PE 1-4918.

CADILLAC: '66 Sedan de Ville, clim. cont., all pwr., $1,700; '65 Pontiac Catalina, Safari sta. wag., air cond., all pwr., $1,100. HA 3-4937.

DART: '65 GT, pwr. steer., 225 C.I.D., red w/blk. int., $750. 277-1926.

TORINO: '68, 302 c.i., auto., pwr. steer., radio, bkts., cons., 2-dr. fastbk., GT, wide ovals, $1,500. ED 4-2532.

FORD: '69 Falcon, 2-dr. sed., $1,400. AN 6-1739.

OPEL: '67 sport coupe, $750. 271-6261.

For Sale

OLDSMOBILE: '64, F-85, 4-dr. sed., alum. block, V-6, auto., pwr. steer., $200. 368-2812.

PLYMOUTH: '64 Fury, 4-dr., 5 new poly tires, 2 snows & whls., new bks., transm., $695. 549-5677.

PLYMOUTH: '66 Valiant, 2-dr. sed., 170 c.i., 6 cyl., std., $275. 798-7981.

MISC.: 2 reg., 2 snows, tires & whls., 7.35x15, from '63 Pontiac Tempest, $80; elec. range, Hotpoint, wh., lrg. oven, $35. 286-8661.

PUPPIES: Ped. Germ. shep., father champ AKC. WE 8-5389.

VW: '70 Notchback sed., 1,600 series, 14,000 mi., $1,750. MY 2-5126.

PONTIAC: '68 Tempest, 2-dr. hdtp., V-8, pwr. steer., vinyl tp., auto., turquoise. 744-2404.

BONNEVILLE: '65, grn., AM/FM, w/w, $600. 826-4646.

CAMARO: '69 blue/blk. vinyl tp., bkt. seats, auto., pwr. steer. & bks., R&H, clock, 5 new tires, wide ovals, orig. owner, low mi., $2,100. 785-4734, after 7.

at your SERVICE

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Type or print ad on form available at Employees Service and Engineering counters, and send via interplant mail to PLANE NEWS, Plant 5, Bethpage. List home phone (with area code if outside Nassau or Suffolk). Limit: one ad per person per issue. No item under $10, no firearms or ammunition.

KARMANN GHIA: '69, wh., R&H, w/w. $1,500. 732-5693.

PLYMOUTH: '69 Belvedere, 6 cyl., auto., pwr. steer., 25,000 mi., $1,700. LT 9-0354.

MUSTANG: '69 Mach I Cobra Jet 428, 4-on fl., tach, disc bks., pwr. steer., wide ovals, R&H, ask. $2,300. 691-5135, after 5.

PONTIAC: '64 conv., Catalina, recent. replac. shock, ball joints, etc., $375. 352-3727.

FALCON: '70, 6 cyl., auto., pwr. steer., 2-dr. sed., R&H, new tires, $1,650. 731-2140.

FORD: '57, rebit. eng., new tires, nds. torque conv., best offer. 288-9482, bet. 9-5 p.m.

HONDA: '70, 175CB, low mi., 2 helmets, xtras, ask. $500. IV 6-1219.

MISC.: 4 Amer. 15x6 mags, fits GM Vette disc., spinners, chrome lugs & tubes incl., $90. 226-3398.

DUNE BUG.: '66 chassis, '65 eng., cust. tp. & side curt., air horn, new sand tires, nds. eng. work, $895. HR 2-1706, after 5.

TIRES: General 7-35x15 snows on Comet whls., $30. OR 6-7256.

TRAVEL TRLR.: '68 Serro Scotty, 13 ft., w/stove, icebox, canv. canopy, hitch, spare, slps. 6 $800. 588-5583.

HDTP.: For MGB, blue vinyl ext., $55. 757-1738.

TYPEWRITER: Royal, std., $35; '64 Ford Fairlane, 2-dr., $500. 433-5750, after 6.

TENT TRLR.: Hit, slps. 6, sink, icebox, tbl., chrs., $550. 724-4766, after 4:30.

MISC.: Albany cutter horse sleigh, old oxen yoke, $35; remote cont. boat spotlite, $10; antiq. auto lamps & wine crocks, 751-1086.

TRAIN SET: HO gauge, pwr. pac, 5 eng., 26 frt. cars, 6 pass., comp. vill., tunnel, bridge, frt. & pass. sta., switches, track, xtra parts, $125. 286-0899.

BREAKFAST NOOK: 3x6 w/5 ft. match. formica tbl., 2 match. chr., $190. 822-1088.

TROMBONE: Conn., prof. type, reason. 265-1249.

DRESSER: Baby's basketweave, wal., $10. 427-1946.

CRIB: W/matt., Childcraft, wal., $25. 724-1101.

CARR.: Bilt-Rite coachette, reason. 212 479-0508.

CARR.: Coach type, w/w, $25. HA 7-9683.

BABY ITEMS: 40 in. Cosco deluxe playpen; musical baby swing, reason. 785-5335.

MINI-BIKE: Rupp, 3½ hp, front & rear shocks, fend., st. lgts., spare eng. parts, $115. 586-4806.

MINI-BIKE: 2½ hp, $60. 764-0041.

BICYCLE: 24 in. girl's Schwinn, Hlwd., $25. MY 2-5498.

For Sale

SURFBD.: Dewey Weber, $40. 888-3063.

BICYCLE: 26 in. boy's Schwinn, ask. $25. AT 6-1197, after 5.

MISC.: Olympus pen ft pro 28 mm, f2.8 lens, $100. 488-7197.

MISC.: Nikkormat fs w/lea. case, 50 mm f2 auto Nikkor lens, $125; 28 mm f3.5 auto Nikkor lens, $90. Jerry Wachtel, Ext. 1455.

CAMERA: Agfa Solina 35mm proj., Aerequipt. Superba 77 & scrn., $85. IV 3-6536.

FURY III: '69, pwr. steer. & disc bks., air cond., help. spgs. on rear, ask. $1,850. 938-7537.

TIRES: 2 w/w, 825x14, $25/2. 587-7646, after 5.

MISC.: 3 rims, 13 in. w/4 mtg. holes w/tires, 2 tires, 8:55x15 w/w, $20/all. 781-4871.

MACH 3: '70 Kawaski, 500cc, cust. seat, Z-bar, $750. 666-5586, evgs.

PUPPIES: Irish sette, AKC, champ line, $125. 581-6241, after 6.

MISC.: Bdrm. set, Bassett, lgt. oak, formica tread. tp., dbl. dress. w/mirror, sgl. dress. w/bkshelf, corner desk w/bkcase & chr., sgl. bd. w/inner spg. & matt., $250; Berkey Gay liv. rm. set, sofa & chr., persim. & grn, wing bk. chr., $85. MO 7-8350, after 6.

LIV. RM. SET: W/slip cov., cherry mahog. cocktail & end tbls. & cab., & lamps, best offer. 724-3808.

AMA. RADIO STA.: Comp. Hallicrafter, rdy. for air, $275. 273-7246, after 4.

BOAT: '61 Thompson, 17 ft. w/'61 Evinrude, 40 hp, '63 Johnson, 35 hp, trlr., $500. 694-0021.

CONS. ORGAN: Farfisa Leader, 1½ yr., dbl. keybd., ped. & manual bass, $700. 842-4458.

BOAT: '59, 32 ft. Chris Craft Cmdr., 11 ft. 6 in. beam, twin 130 hp, f.w.c., slps. 6, 12v refrig., hd., bow rail, S/S, depth find., stove, access., dbl. plank. btm., $8,500. 799-6484.

TBL. SAW: 8 in. w/motor & 2 blades, 2 protractors on metal std., $45. MO 9-4278.

VW: '67 Bug, $1100; '68 VW, auto., $1,300. OR 1-4718, after 5:30.

FURN.: Din. rm. tbl., 4 chrs., buffet, cherry mahog., $75. 265-0332.

MISC.: 21 in. Zenith color cons., $125; Tappan elec. range, 30 in. coppertone oven, $45; 42 in. round ped. tbl. w/18 in. leaf, 4 swivel chrs., for dinette, $110. 543-2529.

GOLD. RETRIEVER: Fem., AKC, 9 mo., housebkn., gd. w/child., $50. 293-6398, after 5.

CAMERA EQUIP.: New Zeiss Ikon/Voigtlander Vitessa 126 S elect. w/batt. & case, 2.8/38 mm color-Lanthar lens, dist., 3.5' - inf., ap. 2.8 -22 settings, e-z snapshot set. for landscpe, group & port., elec. adj. from 1/300 to 1/30 sec. or up to 10 sec., sgls. in viewfind., $50. 273-2810, after 7:30.

PONTIAC: '65 Bonneville yel. conv., air con., pwr. steer., bks., wind., & seats, radials & snows, $325. 928-2829.

CAMARO: '68, 4-spd., 6 cyl., 23,000 mi., orig. owner, $1,550. WA 2-5793, after 5.

MISC.: 2 w/w 695-14 snows, on whls., $14/ea.; alum. comb. s-s dr. w/frame, 37x81, $15; '66 shop manual Rambler Marlin-Ambass.-Classic, reason. 293-7710, after 5.

TRAVEL TRLR.: '66 Avion, 25 ft., comp. self cont. JU 8-4291, after 5.

TIRES: Nylon tubeless snows, 6:40, 6:50, 6:70x15, used 1 winter, $15/pr. LI 1-9566.

BOAT: '68 MFG Bow Rider, 17 ft., 55 hp Evinrude, 50 hr., Navy tp. & cov., trlr. w/spare, water skis, comp. $1,750. 586-0830.

BOAT: '68, 330 ft. Revel Craft, slps. 6, 210 hp Chrysler, F.B., S/S, depth find., xtras. 265-0332.

BOAT: '61 Pacemaker, 30 ft. Sportsfisherman, new 230 hp Chris Craft eng., f.w.c, fly bridge, 110w S/S, xtras. SU 1-5867, after 4.

BOAT: '59, 20 ft. North Star lapstrake, cab., slps. 2, hd., all new canv., & cush., 40 hp Johnson outbd., $950. CH 9-5084, after 4:30.

RUNABOUT: '66 Seabreeze, 19 ft. fbgl., 60 hp Johnson, full Navy canv., xtras, $1,250. JU 1-5017.

BOAT: GW Invader, 2 tone paint, rac. stripes, navig. lgts., 40 hp Evinrude, w/elec. start., trlr. w/new tires, $1,050. 757-2067, after 6.

MISC.: '70 Dacor air tank w/rubber boot, plastic bk. rack w/nylon should. straps, 60 min. cap., water lung, Hydronaut, reg., bal. 1st stage, $75. IV 6-1219.

POOL: 10x30, filt., cov., vac., $35. 751-3917 after 6.

TAPE RECORD.: 4-trk. stereo, up to 7 in. reels, wal. case, mike, 2 spkrs., $150. PY 9-4448, after 5.

For Sale

TKTS.: 2, N.Y.C. Opera prod. "Julius Caesar," Lincoln Ctr., 10/9, Sat. matinee, $15.90. 581-8635.

DWG. TBL.: Saxon tppe, pine, adj., 3x5, $50. PE 5-1759, after 7.

CONS.: Magnavox, stereo, radio, early Amer. cab., w/wo albums, reason. WE 5-1050.

OLDSMOBILE: '65 Cutlass, air cond., pwr. steer. & bks., auto. 212 592-9508, after 6.

FISH. ROD: 11 ft., 1 pc. Lamaglas blank, carbide tip, chrome on bras reel seat, cust., surf, spin., $30. 744-6653.

CAMERA: 35mm rangefinder Koinica auto S-2, new, fi.7 lens, skylite filt. & sun shade, hrd. case, flash attach., $55. Robt. Housica, Ext. 7711.

TKTS.: Concert, prs. for sev. N.Y. Philharmonics, exc. seats. 541-8382.

MISC.: Gen'l. tankless copper sidearm hot water heater, 6 GPM, 2 Honeywell aquastats, $35; Robts. Gorden gs conv. burner gun, input 150,000 BTU, w/pilot valves, etc., $50. 598-1525.

CEIL. FIX.: Fluorescent lgt., dual circleline, decor. wh. plastic transl. cov., $12. 285-5252.

PUPPIES: Germ. shep., AKC, wh. male, blk. & tan fem., lrg. bones, temper shots, wormed, $75 & up. 798-5252.

HOUSE: Deer Pk., 2 fam. all brick, 2 bdrm., kit., bar, bath; sep. ent. upstairs, 2 bdrm., kit., lounge, bath, lrg. lndry rm., gar., paved cov. patio, $36,500. 667-9788.

FORD: '68 Cortina, 4-yr. sed., auto., R&H, $700. LI 1-5354.

CHEVY: '63 Biscayne sta. wag., pwr. steer., R&H, $300. BA 3-1247.

TOYOTA: '70 Corolla 1200, 20,000 mi., 4 new tires, $1,500. OR 6-5714.

VW: '66 Bug, $750. 212 847-2505.

STA. WAG.: '59 Jeep, 4-whl., equip. for bch., Warn hubs, reblt. eng., 9,000 mi., nds. work, $350. LT 9-3372.

CESSNA: '65, 172 Skyhawk, TTAF 1730, 0830 SMOH, 0260 STOH, chrome, ARC 200, Navomatic A/P, ARC 300 nav/com, ARC 521B ADF, Bendix 221, 360 X-Ceiver, Geneve 4096, A/R Cap. X-ponder, Narco MK XIII, 3 lite M.B., Narlo VGR-1A G/S, elec. flaps, CHT IND., man. pres. full panel, cert. IFR, air cond., 9,700. 681-7880.

BOAT: 18 ft. Cruisers, Inc., 90 hp Johnson, hyd. lift, Cox trlr., xtras. 888-7822.

CLAM GARVEY: 16 ft., new, ½ marine ply, $320. LT 9-2701.

VW: '67 Fastback, blk., new rac. eng., $575. 588-4714.

HOUSE: Smithtown, 4 bdrm. hi-ranch, 2½ bath, 2 car gar., eat-in-kit., din. rm., rec. rm., patio, porch deck, w-w, s-s, o.h.w. 2 zone heat, new. decor., $38,000. 724-8631, after 5:30.

DINETTE SET: 36 in. round wood. tbl., formica tp., 1, 12 in. leaf, 4 chrs., $25. IV 5-4299, after 6.

DODGE: '63 Dart, 6 cyl., manual, best offer. OV - 7381, after 5.

LIV. RM. SET: Sofa, club chr., 2 tbls., 2 lamps, 2 plaques, $300; lrg. refrig. w/freezer on btm., $90. JU 4-6090.

HOUSE: Downsville, Catskill mts., 3 bdrm., approx. 1 acre, 2 mi. vill., hunt., fish., summer & winter sports, $14,000. 607-363-2265.

MOTORCYCLE: '66 Thunderbolt, 650cc, comp. stock, new tires, batt., ask. $700. 212 779-5725, after 6.

ELECT. WORKSHOP: Heathkit JK-18, deluxe 4 transistor exper. set, wired, $18. 751-1256.

DINETTE SET: Contemp. wood grain formica tbl., 2 leavefs, 4 match. hi-bk. chrs., $60. 981-0632.

PLAYER PIANO: Nds. little work, $150. 588-8850.

VW: '70 Notchback sed., 1,600 series, 14,000 mi., $1,750. MY 2-5126.

VW: '67 Bug, stick shift, R&H, whl. rims, 55,000 mi., $925. 212 471-1859, after 4.

VW: '63 Bug, '65 reblt. eng., $475. 289-8755, after 6.

VW: '66, radio, new bks. & tires, $800. 588-1778, after 6.

VW: '68 Beetle, radio, undercoat, $1,100. 265-6128, evgs.

PLYMOUTH: '66 Fury II, sta. wag., R&H, orig. owner, new muff., 39,000 mi., $1,025. LY 9-2485.

STA. WAG.: '63 Bel Air Chevy, 6 cyl., std., 6 pass., $350. 935-3612.

STA. WAG.: '62 Chevy II, auto., radio, $125. 266-1332.

TRIUMPH: '69 GT6+, dk. blue, AM/FM, 26,000 mi., new tires, $2,195. Kathleen McCabe, Ext. 87409.

SAAB: '69, 2-dr. sed., 16,000 mi., air cond., xtras, $1,750. 694-4119.

For Sale

MUSTANG: '67, new tires, bks., stick shift, syncro. transm. 489-7271.

RIVIERA: '64, pwr. steer., bks., & wind. & antenna set, auto., air cond., wh. w/blk. int., $850. 234-4349.

OLDSMOBILE: '69, 442, AM/FM, stereo tapes, - spd., air cond., vinyl tp., bkt. seats, posi, new tires, 24,000 mi., ask. $2,500. 549-4030, evgs.

ALPINE: '65 Mark IV, nds. some work, $200. 265-8018.

VEGA: '71 Hatchback, red/blk., 4-spd. std., wide oval tires, low mi., options. 742-4746.

CAMPER: '71 Starcraft Starmaster, $1,295. 931-8542.

RAMBLER: '59 sed., run. cond. or parts, best offer. WE 5-5553.

HDTP.: For MGB, blk. fact. w/all hardware, fit '65-'69, ask. $225. 212 762-7882.

TONNEAU COV.: For '64 MGB, leatherette, $30; handbk. & tail lgt. rims incl. 671-8707.

CAMPER: Starcraft deluxe tent trlr. Constellation, slps. 8, gas/elec. refrig., hdtp. bunk ends bks., xtras, $990. 212 LE 9-3596.

PROPERTY: ⅞ acre, hilltp., old section, Hemlock Farms, Pa. PE 1-3271.

PROPERTY: Pt. Charlotte, Fla., 80x125 corner plot, $3,000. 266-3230.

MOBILE HOME: Marlette, 12x60, 2 bdrm., W&D. 421-3275, after 6:30.

PLYMOUTH: '69 Fury III, auto., pwr. steer., 2 - dr./ hdtp., R&H, 43,000 mi. 728-1511.

BIKE: 16 in. Schwinn Pixie, $10. 722-3801.

MISC.: 2 37x27 in. casement wind. w/scrns., $10/ea.; wood. outer dr. & s-s dr., $60; clear emboss. plastic auto seat cov., $10. 231-8442.

MISC.: Lady's gold watch, $100; sterling silver & gl. coffee server, $15; med. brown wiglette, fall & hdform, $15. 724-7015.

MISC.: IBM elec. typewriter, $40; Lafayette short-wave recvr., $25; Panasonic port. tape record., $15; steel barbell set, 150 lb., $20. 234-7211, evgs.

TAPE DECK: Teac 4010, dust cov., 10 reels tape, 2 mikes, auto. reverse, $300. 928-3595.

STA. WAG.: '63 Chevy, blk. & rust, must sell, ask. $350. 757-3673.

TRAINS: 027 gauge Lionel, 3 eng., freight, pass., cars, switches, track, comp., $50. JU 4-7348.

SEW. MACH.: New, $175; typewriter, $15. 334-4478, after 5.

CLARINET: & case, Boosey & Hawkes, B flat wood, $45. 665-6461.

TYPEWRITER: Remington, std., $50. WA 1-2670, after 6.

PROJECTOR: 8 mm Bell & Howell, Lumina 12 auto-load, $35. CH 9-1019.

PARTS: for Norge wash. mach., motor, pump, etc., $10. 757-0438.

KIT. SET: 30x60 formica tbl., 6 Gov. Carver chrs., $95. 681-5927.

MISC.: Kenmore, 2 yr., 700 clothes washer, 5 cyc., $150; Whirlpool gas dry., $75, both $200. LI 1-1579.

MISC.: 2 pc. freeform sect. couch, $60; 7 pc. rattan porch set, $160; birch crib, $15; 26 in. bike, $15; coach carr., $25. 621-3734.

HOUSE: Huntington, Ft. Salonga, 8 rm. hi-ranch, 3 yr., 1 acre, 4 bdrm., 2½ bath, eat-in-kit., din. rm., fam. rm., 2 car gar., fieldstone firepl., wood shingles & wind., drk. pine cab. & hutch, s-s, immed. occup., $46,900. 261-7175.

HOUSE: Loretta Pk., Brentwood, 7 rm. col., 3 bdrm., din. rm., den, fin. bsmt., pool, 1½ bath, $30,000 or $14,600 take over 5½%. 273-0569.

HOUSE: S. Huntington, sch. dist. 13, 3 bdrm. split, o.h.w. heat, fam. rm., 2 bath, 5 appli., patio, treed ¼ acre, $850/yr. tax, $33,990. HA 3-6737.

HOUSE: Westbury, exp. Levitt ranch, 5 bdrm., 2 bath, new kit., lrg. liv. rm., den, porch, E. Meadow sch., avail. mid-Dec., $41,500. 333-8139.

HOUSE: Commack, 3 bdrm. ranch, w-w, 24 ft. pool, bow wind. liv. rm., din. rm., eat-in-kit., appli., 24 ft. patio, ¼ acre, fenc., fin. bsmt., alum. leaders & gutters, lndscpd., xtras, ask. $32,990. 543-4116.

HOUSE: Dix Hills, 4 bdrm. hi-ranch, w-w, all appli., 2 car gar., s-s, FHA mtge. appli., $34,500. JU 6-7927, evgs.

HOUSE: Old Bethpage, huge hi-ranch, 4 bdrm. on 1 lvl., 2½ bath, eat-in-kit., din. rm., 18x24 den, laundry, workrm., 2 rm. study w/sep. ent., 24 ft. deep gar., 82x102 plot, patio, walks, sundeck, s-s, w-w, $46,990. 433-8939.

GAR. SALE: Oct. 9, 10 a.m.-5 p.m., 38 Heisser Lane, corner Beverly Rd., S. F'dale. 293-7888.

For Sale

MUSTANG: '69 Mach I, 335 hp, 428 c.i., 391 rear close ratio 4-spd., 46,000 mi., tach, Goodyear poly tires, new bks., clutch & chcks, oil cooler, cons., bkt. seats, AM/FM, $1,995. WE 8-4386.

RAMBLER: '62 Amer., 60,000 mi., $50. 724-3720.

CORVETTE: '65, 2 tps., new tires, stick shift, $2,000. FL 2-4777.

JEEP: '62, 4 new snows, plow. HA 7-8224.

VW: '69, sun roof, auto. stick shift, low mi., $1,700. MO 5-4398, before noon.

DODGE: '70 Challenger, hemi-orange, 318, 8 cyl., R&H, auto., pwr. steer., air cond., rear spkr., rear defog., bkt. seats, lgt. group tint gl., w/w, $3,000. 735-4911, after 4:30.

MUSTANG: '70, blue/blue int., V-8, auto., pwr. steer., vinyl tp., 18,000 orig. mi., $2,285. 231-7080.

VW: '64, new paint, ask. $500. MY 4-5091.

PONTIAC: '66 Bonneville, pwr. steer. & bks., rear spkr. & defog., ask. $1,100. MY 4-5097.

BARRACUDA: '70 Gran coupe, air cond., 318, V-8, spec. int., AM/FM, stick, w/w, 30,000 mi., $2,100. 212 347-6516, evgs.

VW: '62, revlt. eng., nds. minor repairs, ask. $225. 922-7522, after 5.

PORSCHE: '67, 912-5 spd., $2,800. 981-0935.

STUDEBAKER: '63 Gran Turismo Hawk, classic, auto., pwr. steer., posi, R&H, 4 new tires, red, blue offer. 212 NI 8-2787.

TIRES: 2,825x14 w/w, $25. 587-7646, after 6.

SNOWS: 2, 650x13, mtd., $20. 681-0243, after 5:30.

TIRES: 5 Semipeit tubeless radials, 7.00 SR-13, mod. M-301, new, $32.50. 212 762-7736.

CHEVROLET: '68 Caprice sta. wag., pwr. steer., bks., & win., auto., tape deck, 40,000 mi., ask. $2,150. MO 9-3578.

BUICK: '63 Wildcat, 4-dr. hdtp., full pwr., $475. CH 9-1641.

BUICK: '62, 4-dr. sed., auto., pwr. steer & bks. 751-8981.

CHALLENGER: '70, air cond., pwr. sunroof, wind., & steer., 383 auto., std. fuel, wide tires, xtras, ask. $3,100. P. Viemeister, Ext. 3445.

CHEVROLET: '65 red conv., new tp., V-8, 283 c.i., $325. 585-3747.

VW: '67 Fastback, blk. new rac. eng., $575. 588-4714.

CHEVROLET: '67 Impala, 6 cyl., 2-dr. hdtp., w/w, auto., pwr. steer., under 40,000 mi., ask. $1,200. 368-1925.

MGB: '69 British rac. grn. w/blk. int., chrome wire whls., ask. $1,750. 928-0708.

STUDEBAKER: '59 Lark, 21,000 orig. mi., blk., 2-dr. hdtp., $200. 421-2289, evgs.

WAG.: '63 Ford., V-8, pwr. steer., bks., & rear wind., w/w, poly tires, reblt. motor & trans., xtras, ask. $250. MY 4-1069.

CHEVELLE: '67 SS, 396, 325 hp, 4-spd. w/new Hurst shifter, tach, F-70/14 w/w Goodyear tires, Keystone mag whls., pwr. steer. & bks., xtras, $1,400. TA 6-0867.

VW: '66 Bug, new w/w, muff., batt., R&H, 58,000 mi., sea blue, spare parts, garaged. 421-3792.

CHEVROLET: '62 Impala, 4-dr., auto., 6 cyl., pwr. steer., $50 or best offer. JU 7-8574, after 6.

FIAT: '69, 850 coupe, Abarth evh. sys., 10,000 mi., orig. owner, xtras, $1,250. OV 1-0207, after 6.

FIREBIRD: '68, 400, 4-spd., pwr. steer. & bks., cam, hdrs., posi, low mi., red w/blk. int., Keystone mags. 368-8812, after 6.

PLYMOUTH: '62 conv., Centaur, 361 auto., drag-car, fully prep., UHRA nat'l. record holder, N.Y. record hold. 4 yrs., consec. 212 347-6516, evgs.

HOUSE: Syosset N., 3 bdrm. ranch, 2 bath, den w/firepl., eat-in-kit., air cond., full bsmt., patio, cul-de-sac, 5¾% mtge., $42,990. 921-3748.

HOUSE: Sayville, 7½ rm. sprawl. cust. ranch, 1½ yr., din. rm., 1½ bath, eat-in-kit, fam. rm., full bsmt., attach. gar., o.h.w. heat, 75x100, ask. $30,800. 567-4113.

HOUSE: Bethpage, 3 bdrm., firepl., conven. to vill. & Grumman, non-devel., $34,000, prin. only. WE 1-5179.

HOUSE: Old Bethpage, 3 bdrm. ranch, 1½ bath, fin. bsmt., gar., all appli., pool, patio, 2 zone heat., wired for stereo, stor. area & closets, ask. $36,500. 694-0696.

HOUSE: Bethpage, 4 bdrm. cape, 2 bath, attach. gar., 2 zone heat, panel. liv. rm. & din. area, in-grnd. pool, s-s- appli., carpet., etc. 65x100, $36,000, 681-5459, wkedns.

HOUSE: Smithtown, 4 bdrm. col., 2½ bath, firepl., panel. den, 23 ft. kit., lndry., appli., $41,000. 724-6025.

For Sale

HOUSE: E. Northport, 3 bdrm. cape, 2 bath, den, eat-in-kit., panel, liv. rm. & din. rm., new w-w in liv. rm., patio, firepl., gar., $34,500. 261-2107.

HOUSE: N. Ctrl. Islip, 4 bdrm. ranch, 1/3 acre, treed, fin. bsmt., cyc. fence, xtras, $28,000. 234-8657.

HOUSE: Jericho, 8 rm., 3 bdrm., 1½ bath, att. gar., fenc. bk. yd., fin. bsmt. w/bar, playrm., opp. sch., nr. RR & Mid-Isl. Plaza, $37,200. 433-3059.

HOUSE: Hicksville, 4 bdrm. cust. cape, 1½ bath, 2 kit., 1 eat-in w/breakfast nook, formal din. rm., panel. bsmt. w/outside ent., gar. & ½ w/loft, stone front, Alside alum. sid., s-s, xtras, $36,900. WE 5-3098.

SAILBOAT: 30 ft. Knarr Clas No. Sea sloop, new paint, varnish, sails & motor, $4,000. 666-6010, after 6.

BOAT: '64 Pacemaker Exp. Cruiser, 25 ft., 185 hp, low hrs., slps. 4, galley, hd., Monel gas tank, ask. $4,500. MY 1-2636.

DINGHY: 8 ft. fbgl. Atlantic w/3 hp Sears outbd., 2 yr., less than 20 hrs. on both, $200. 781-0671.

BOAT: '57 Marblehead, 23 ft.x8 beam, 125 hp Palmer, 2 bunks, galley, hd., Maine blt., ¾ cedar carvel plant., $1,750. PE 5-6474.

SKI BOAT: 13½ ft. Owens fbgl., 40 hp '71 Johnson elec., less than 20 hrs., trlr., $1,000. SU 1-0671.

BOAT: 17 ft. Fabuglas, 85 hp Johnson, used 20 hrs., cust. int., tp. side & rear curt., comp. equip., winter stor. free, incl. Cox trlr., $3,000. D. Botway, Ext. 9412.

BOAT: '67, 17 ft. Cobia fbgl., '65, 65 hp Mercury, Nvy tp., moor. cov., compass, life preservers, '68 Tee Nee trlr., xtras, $1,800. 354-6470, after 6.

HOUSE: Massapequa, mother-daugh. legal 2 fam., 3 bdrm. up., 2 ad. bdrm. apt. down, sep. ent, bath & kit., all brick, firepl., 100x100, fully lndscpd., $200/mo. rent., take o'6% mtge., $36,000. 799-8788.

HOUSE: 35x60 ft. ranch, 3 lrg. bdrm., 1½ bath, all appli., lrg. kit., 25x20 fam. rm. w/raised terr., formal din. rm., 35x60 fin. & heat. bsmt., exit to bk. yd., 2½ car gar., undergrnd. sprink., ¾ acre, trout stream is bound. line, h.w.h., $39,500, w/$25,500 mtge., 30 day occup. LT 9-1680.

HOUSE: Huntington, Dix Hills, 1 acre w/105 ft. Old Country Rd., 13 rm., 2½ bath, fam. rm. w/ firepl., jalousie Fla. rm., 2 car gar., appli., $53,000. HA 3-1399.

PROPERTY: Ridge, 5 acres, Wm. Floyd Pkwy., bet. Rte. 25 & 25A, gd. poss. for bus. re-zone, $25,000. 744-6903.

OUTBD.: '68 MFG Beachcomber, 17 ft., 55 hp Evinrude, 50 hr. total time, Navy tp. & cov., spare water skis incl. & trlr., $1,750. 586-0830.

CAB. BOAT: 18 ft. Chris Craft, 2 bunks, hd., full canv., 35 hp elec. Sea King, 12 v batt., ladder, 2 anchors, xtras, $525. MO 5-5612.

SKI BOAT: 15 ft. Glastron fbgl., '68, '70, 85 hp Evinrude, trlr., xtras. 862-8371.

BOAT: 32 ft. Marblehead, slps. 6, 2 Chrysler marine eng., 125 hp ea., compass & depth find., $1,700. PY 8-3869.

SLOOP: 26 ft. fbgl. Pearson Cmdr., 3 sails, slps. 4, galley, outbd. aux. pwr., xtras, $5,500. 261-1186.

BOAT: 35 ft. Sportfisherman, 275 hp Crusader, f.w.c., fully equip., $5,800. 666-5674.

MOTOR: '69, 1½ hp outbd. Evinrude, $75. AN 1-0671.

OLDSMOBILE: '69 cust. 9 pas. Vista Cruiser, all pwr., air cond., dbl. swing gate, $3,100. PY 6-7914.

SAILBOAT: 25 ft. Cruis. aux., M.O.R.C. classic cust. '64 fbgl., 3 dac. sails, nylon sail cov. & sun shade, slps. 4 on 4 in, foam, fully equip., 150 mi. range, Palmer inbd., 14 gal. water, 2 iceboxes, hd., galley, depth find., storm anchor, wint. stor. cradle, xtras, ask. $4,000. 757-0198, evgs.

TRUMPET: Conn director w/mutes & case, $130. WE 1-8494.

ACCORDION: Organier, 240 bass, red, mother of pearl w/case, $30. CH 9-4007.

CLARINET: Bundy, B flat, wood w/case, $75. MY 4-5370, after 5.

CHORD ORGAN: Excelser, 40 reed, $175. 488-7197.

PORT. ORGAN: Whitehall, dbl. keybd., Leslie 147 mod., pre amp attach. 822-2621, after 5.

BEAGLES: AKC, field/hunt., male/fem., $200./ea., 3 mo. puppies, $75/ea. 475-7565, after 7:30.

PUPPY: Germ. shep., fem., AKC, shots, lrg. bone, 10 wk. 929-6314, after 5.

GERM. SHEP.: 9 mo., fem., gd. w/child., all papers, all shots, $75. 666-3716.

HOUSE: Bay Shore, 3 bdrm. ranch, den, din. rm., mod. kit., full bsmt., oil heat, 75x100, w-w, wlk. to shops, $30,500. 666-4903.

Photos by Fred Annette and Larry Van Wallendael

Welcome Scott, Irwin, Worden on visit to Bethpage

It could be called a whirlwind tour, the visit that the Apollo 15 astronauts made to Bethpage September 22 . . . just two active hours . . .

Spacecraft Commander Dave Scott and Lunar Module Pilot Jim Irwin—along with their wives—and Command Module Pilot Al Worden came to Plant 25 at 9:30 a.m. and were greeted by a delegation headed by Senior Vice President Joe Gavin and Vice President Ralph Tripp.

The entourage walked through each of the three floors of Plant 25, where the bulk of the people connected with space programs work. It was a time for camaraderie, when acquaintanceships were renewed; and the astronauts, over and over again, with obvious sincerity, thanked the people who had built (in Irwin's words) "the best camper on the moon."

Then to the Plant 5 boardroom, packed to the gunwales, for films of F-14 in flights—"a beautiful aircraft," said Worden—and a warm exchange of social amenities among Clint Towl, Lew Evans, Bill Zarkowsky, Lew Fischer (RASP0), Tom Kelly, Gavin, Tripp, and many others. Comments flowed with the easy charm of a mountain brook.

"It's nice to have the gals here," remarked Clint.

Scott, Irwin, and Worden were presented with models of LM, and they responded by presenting the executives there with photographs of their lunar visit and small American flags that the LM crew carried with them to the moon.

Scott mentioned appreciatively that the makers of LM had "built it so it'd land in a hole."

Later, Scott said he was "looking forward to the shuttle."

Then the astronauts and their wives visited the Plant 1 production floor. The pilots—all three of the astronauts are Air Force pilots—got a good look at a Tomcat in the build-up stage and said they were impressed.

Then the trio of spacemen went to the grass next to the Plant 4 landing strip, waved to the 20 some-odd people there, and climbed into a helicopter. By 11:30 a.m. they were gone.